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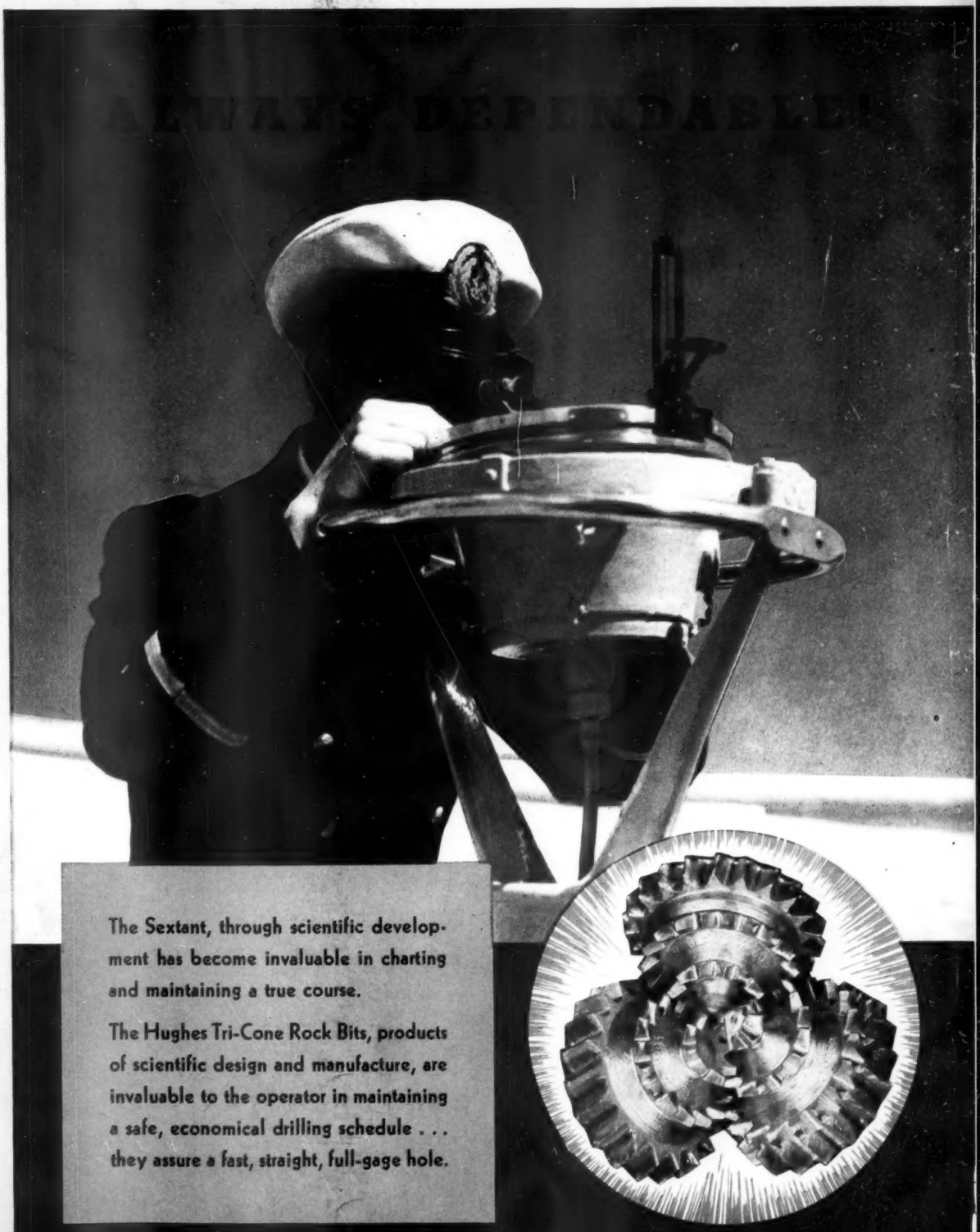

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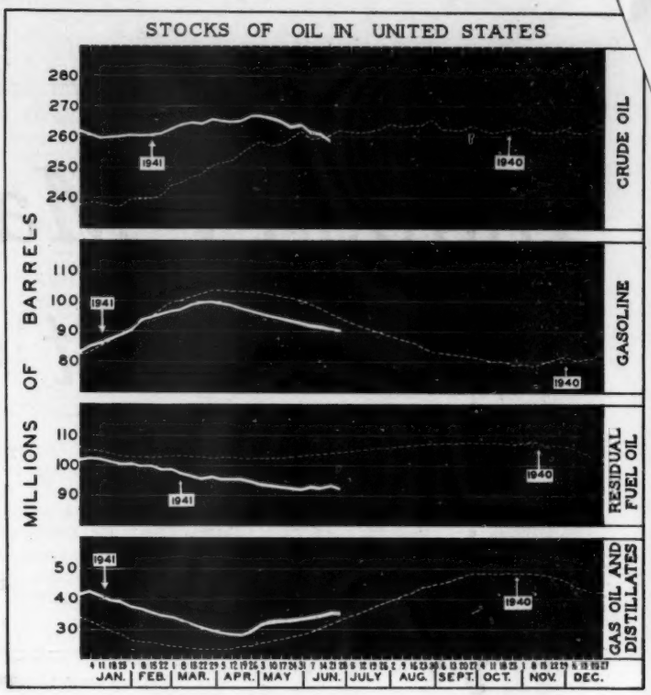
Trends

Sellers' Markets In Crude Oil and Refined Products



REPORTS of the past week further reflected the exceptionally strong position of crude-oil and refinery markets throughout the entire country. In some areas, veteran marketers state that it is necessary to go back to the twenties for comparable conditions. A sellers' market prevails practically everywhere in refinery products. In contrast to conditions over most of the past decade, spot buyers in a few cases are paying premiums over the current published quotations for gasoline and some of the other refinery products. These premiums increase when the sales are for future delivery. Many refiners are sold up for July and August delivery and are in the market for additional gasoline. These purchases are confined to a few cars from smaller refiners who are getting the top of the market for their products instead of the usual low of spot quotations.

CRUDE PRODUCTION *3,860,270 bbl. daily average — down 3,875 bbl. One year ago 3,634,087 bbl.*

CRUDE STOCKS *259,142,000 bbl. as of June 21—down 1,322,000 bbl. One year ago 260,891,000 bbl.*

GASOLINE STOCKS **91,461,000 bbl. as of June 28—down 455,000 bbl. One year ago 94,298,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *92,896,000 bbl. as of June 28 — down 385,000 bbl. One year ago 104,344,000 bbl.*

GAS OIL AND DISTILLATES *35,732,000 bbl. as of June 28—down 4,000 bbl. One year ago 33,048,000 bbl.*

REFINERY RUNS *3,930,000 bbl. daily week ended June 28—up 85,000 bbl. One year ago 3,625,000 bbl.*

*Includes 7,411,000 bbl. aviation motor fuel, up 168,000 bbl. One year ago, 5,293,000 bbl.

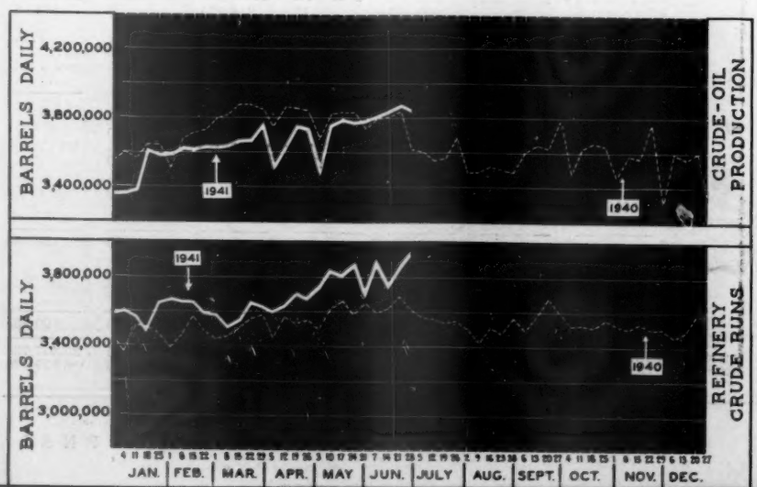
The situation in the crude market in most areas is equally tight. Sellers have no difficulty obtaining the full posted prices plus the normal gathering and transportation charges. Premium paying above the posted prices is reported at a few points in the Mid-Continent and the Illinois basin area. These premiums come from smaller refiners who are seeking additional crude-oil supplies in order to expand plant operations over the remainder of the summer and the early fall months.

Back of this strength in Mid-Continent and Middle West crude-oil markets, is a shortage of supplies which is reflected in the current reports on stocks. For the month ending June 21, B. of M.'s data show that crude-oil stocks in Oklahoma were reduced 2,105,000 bbl. or an average of 75,000 bbl. daily. That state has 23 per cent of the country's refinable crude-oil stocks and this large reduction in inventories is due to operating conditions that include Kansas, a large part of inland Texas and the Illinois basin. Demands for crude oil in that large area have exceeded expectations and present output represents practically the peak producing capacity taking into consideration the available transportation facilities. Normally these developments would lead to generally higher prices for crude oil and refinery products. The attitude of the price-control administration is a factor in the postponement.

DAILY AVERAGE PRODUCTION FOR WEEK

	June 28, 1941	Bur. Mines June est. of demand	June state allowables	June 21, 1941
Arkansas	72,695	83,000	73,612	72,860
California	627,750	615,300	575,000	640,150
Eastern fields	112,600	122,300	.....	112,500
Illinois	346,200	345,300	.....	343,005
Kansas	237,300	220,400	232,400	231,450
Louisiana	325,715	319,700	319,500	331,910
North Louisiana	*77,365*	.....	.....	*77,660*
Louisiana Gulf Coast	*248,350*	.....	.....	*254,250*
Michigan	37,800	38,000	.....	40,200
Mississippi	28,475	23,300	.....	28,015
Nebraska	4,200	4,300	.....	4,400
New Mexico	113,860	113,000	113,000	113,870
Oklahoma	420,175	459,700	415,000	414,125
Rocky Mountain states	105,250	114,000	.....	109,460
Texas	1,428,250	1,371,700	1,362,280	1,422,200
East Texas	*373,300*	.....	.....	*373,200*
West Texas	*264,050*	.....	.....	*262,950*
North Central Texas	*133,050*	.....	.....	*132,350*
East Central Texas	*80,600*	.....	.....	*80,600*
Texas Panhandle	*82,450*	.....	.....	*81,150*
Texas Gulf Coast	*400,250*	.....	.....	*397,550*
Southwest Texas	*94,550*	.....	.....	*94,400*
Total United States	3,860,270	3,830,000	.....	3,864,145
Total production, Jan. 1-June 28, 1941		631,388,720 bbl.		
Same period last year		647,524,382 bbl.		

The crude-oil market is not as strong in the Texas and Louisiana coastal areas where some supplies are going to storage due to tanker situation. In regard to tankers the Gulf Coast-East Coast situation is not as critical as many believed it would be when 50 tankers were requisitioned by the Government for British service over a month ago. Observers now agree that the full significance of this action will not be apparent for another 30 to 60 days.



Industry May Avert Severe Cut in East Coast Supplies

By H. STANLEY NORMAN

THE petroleum industry may avoid nearly all threatened dislocation of supplies and consumptive demand along the East Coast if current conditions are indicative of the future. Two months have passed since the Maritime Commission announced diversion of 50 United States tankers to British shuttle service. Dislocation of East Coast supplies and the backup of stocks at Gulf Coast ports predicted as an immediate result by the more pessimistic elements in the industry have developed to only a minor extent in the past 60 days.

Texas and Louisiana suppliers ship nearly 1,100,000 bbl. of crude oil and products daily to North Atlantic ports receiving petroleum from the Southwest. Gulf Coast ports of origin and North Atlantic discharge terminals are shown in the accompanying tables with the volume and type of petroleum traffic at both ends of the coastwise supply line.

Opposed to the views of some is the statistical position of petroleum supplies on the East Coast. Stocks of oil on the East Coast, the key to imminence of shortage, have increased during May and June giving credence to reports that coastwise petroleum traffic has suffered a minimum of interruption.

Motor-fuel inventories on the East Coast have increased 42,000 bbl. daily during May and June this year in contrast to a reduction of 13,000 bbl. daily for the same period averaged for the past 5 years. Distillate-fuel stocks followed a normal trend in May and June, increasing 41,000 bbl. daily during the 2 months compared to a 5-year average gain of 40,000 bbl. daily in the same 60-day period. There has been no change in the relative position of residual fuel-oil stocks in the past 60 days compared to the 5-year average. Crude-oil stocks declined at the rate of 27,000 bbl. daily on the East Coast in May and June in contrast to a 5-year average increase of 20,000 bbl. daily. Part of the reversal in the current trend of East Coast crude-oil stocks may be attributed to the record-breaking rate of refinery operations. Still, a part of the tanker tonnage customarily devoted to transportation of crude at this season of the year is now engaged in maintaining residual fuel-oil stocks at reasonable working levels.

Deliveries Rushed Last Month

June, preliminary reports indicate, was the biggest month in the history of coastwise petroleum trade between certain of the Gulf Coast and North Atlantic ports. Details have not been made public by the Maritime Commission on the number, names and tonnage of tankers placed at the disposal of British shipping. The volume of petroleum moved from some of the Gulf Coast ports last month indicates, however, that at least a few of the 50 American tankers committed to the British have not been withdrawn from domestic service. Those of the 50 boats assigned the British that may temporarily remain available for domestic coastwise shipping are "on call" and are subject to government assignment on short notice.

Figures in the accompanying tables show that Texas and Louisiana ports are the focal points for nearly 1,100,000 bbl. of crude and refined products shipped in coastwise trade to East Coast terminals from Baltimore, Md., to Portland, Me. In addition to the 1,084,940 bbl. of crude and products shipped coastwise in January, the latest month for which complete details are available, East Coast ports receive from 200,000 to 225,000 bbl. daily of imported petroleum.

Until recently the movement of California petroleum moving through the Panama Canal to North Atlantic ports, consisting almost entirely of gasoline and solvents, averaged more than 13,000 bbl. daily. Eastern movement through the Panama

TABLE 1—ORIGIN AND DESTINATION OF CRUDE OIL AND PETROLEUM PRODUCTS SHIPPED IN COASTWISE MOVEMENT FROM GULF TO NORTH ATLANTIC PORTS

(Data converted to barrels from original compiled by the Board of Engineers for Rivers and Harbors, War Dept.)

	Crude oil	Gasoline and naphtha	Kerosene	Residual fuel	Distillate	Lubricating oil	Total liquid refined products
Corpus Christi, Tex., to:							
Philadelphia, Pa.	221,105	.....	.....	113,190	69,615	.....	.....
New York, N. Y.	251,050	329,990	36,085	130,055	465,590	.....	.....
Providence, R. I.	.....	.....	.....	59,160	.....	.....	.....
Boston, Mass.	215,660	.....	.....	.....	193,255	.....	.....
Total	687,815	329,990	36,085	302,405	728,460	.....	1,396,940
Texas City, Tex., to:							
Baltimore, Md.	182,625	228,535	48,370	262,390	.....	.....	.....
Wilmington, Del.	.....	56,985	.....	48,810	.....	.....	.....
Philadelphia, Pa.	76,795	112,980	.....	.....	.....	2,340	.....
New York, N. Y.	.....	310,795	239,505	152,020	.....	.....	.....
Providence, R. I.	.....	128,235	.....	.....	.....	.....	.....
New Haven, Conn.	.....	.....	49,755	45,690	.....	.....	.....
Tiverton, R. I.	.....	.....	108,610	77,660	.....	.....	.....
Boston	198,020	140,140	159,810	326,740	19,835	.....	.....
Portland, Me.	.....	.....	.....	92,770	.....	.....	.....
Total	457,440	977,670	606,050	1,006,080	19,835	2,340	2,611,975
Houston, Tex., to:							
Baltimore	.....	245,415	57,590	389,310	52,550	4,395	.....
Philadelphia	618,315	382,280	.....	425,555	.....	77,010	.....
New York	467,605	1,611,130	220,590	1,597,600	645,115	22,280	.....
Providence	.....	54,415	40,405	52,225	.....	.....	.....
Fall River, Mass.	.....	146,885	77,365	52,280	.....	.....	.....
Boston	.....	21,715	92,415	220,230	.....	.....	.....
Portland	.....	61,475	86,275	28,050	36,635	.....	.....
Total	1,085,920	2,523,315	574,640	2,765,250	734,300	103,685	6,701,190
Port Arthur, Tex., to:							
Baltimore	.....	118,755	33,810	73,950	.....	610	.....
Delaware River ports	.....	131,725	12,300	23,615	.....	13,290	.....
Philadelphia	470,805	10,200	.....	368,220	.....	90,090	.....
New York	843,175	533,250	198,935	714,305	.....	55,835	.....
New Haven	.....	.....	.....	271,390	.....	.....	.....
Providence	.....	226,980	339,390	562,610	.....	17,435	.....
Boston	.....	31,725	65,655	290,435	.....	.....	.....
Beverly, Mass.	.....	33,025	28,915	68,740	.....	2,860	.....
Portland	.....	46,115	49,225	28,745	.....	1,100	.....
Total	1,313,980	1,131,775	728,230	2,402,010	.....	181,220	4,443,235
Beaumont, Tex., to:							
Philadelphia	3,726,735	39,580	.....	267,580	.....	915	.....
New York	605,715	531,085	25,775	339,540	437,400	5,965	.....
New Haven	.....	57,395	.....	58,075	.....	.....	.....
Providence	99,985	254,800	174,370	123,035	107,925	.....	.....
Boston	.....	136,180	101,460	57,925	298,315	85	.....
Portland	.....	49,565	29,345	50,795	53,000	.....	.....
Total	4,432,435	1,068,605	330,950	896,950	896,640	6,965	3,200,110
Other Texas ports to:							
Baltimore	293,745	.....	.....	.....	.....	.....	.....
Philadelphia	1,369,980	.....	.....	.....	.....	.....	.....
New York	1,034,965	.....	.....	.....	153,780	.....	.....
Providence	.....	.....	.....	62,250	.....	.....	.....
Boston	302,310	.....	38,415	87,295	162,445	.....	.....
Total	3,001,000	.....	38,415	149,545	316,225	.....	504,185
Lake Charles, La., to:							
Baltimore	87,780	.....	.....	.....	.....	.....	.....
Philadelphia	474,175	.....	.....	.....	.....	.....	.....
New York	172,420	.....	.....	.....	.....	.....	.....
Boston	85,730	.....	.....	.....	.....	.....	.....
Total	820,105	.....	.....	.....	.....	.....	.....
Baton Rouge, La., to:							
Baltimore	335,230	.....	.....	69,935	.....	19,140	.....
Philadelphia	82,920	.....	.....	.....	.....	.....	.....
New York	58,050	9,540	290,345	293,255	.....	42,040	.....
Melville, R. I.	.....	.....	.....	67,640	.....	.....	.....
Providence	.....	.....	.....	96,365	.....	.....	.....
Boston	512,095	.....	40,175	344,570	.....	.....	.....
Unknown Atlantic ports	.....	7,140	.....	129,955	.....	.....	.....
Total	988,295	16,680	330,520	1,001,720	.....	61,180	1,410,100
New Orleans, La., to:							
Philadelphia	72,590	.....	.....	.....	.....	.....	.....
New York	335,950	.....	.....	98,490	.....	11,425	.....
Fall River	.....	.....	.....	60,070	.....	.....	.....
Total	408,540	.....	.....	158,560	.....	11,425	169,985
Total North Atlantic	13,195,530	6,048,035	2,644,890	8,682,520	2,695,460	366,815	20,437,720
Total other Atlantic	.....	4,262,150	559,780	959,665	224,140	49,735	6,055,470

TABLE 2—GULF COAST PETROLEUM SHIPMENTS TO NORTH ATLANTIC PORTS, JANUARY 1941

(Data in barrels, from Bureau of Foreign and Domestic Commerce)

Destination—	Crude oil		Gasoline		Kerosene		Residual fuel		Distillate fuel		Lubricating oils	
	Month's total	Daily average	Month's total	Daily average	Month's total	Daily average	Month's total	Daily average	Month's total	Daily average	Month's total	Daily average
Baltimore, Md.	899,380	29,012	592,705	19,120	139,770	4,509	795,585	25,664	52,550	1,695	24,145	779
Beverly, Mass.	.....	.....	33,025	1,065	28,915	933	68,740	2,217	.....	.....	2,860	92
Boston, Mass.	1,313,815	42,381	329,760	10,638	497,930	16,062	1,327,195	42,813	673,850	21,737	85	3
Delaware River ports	.....	.....	131,725	4,249	12,300	397	23,615	762	.....	.....	13,290	429
Fall River, Mass.	.....	.....	146,885	4,738	77,365	2,496	112,350	3,624	.....	.....	.....	.....
New Haven, Conn.	.....	.....	57,395	1,850	49,755	1,605	375,155	12,102	.....	.....	.....	.....
New York	3,768,930	121,578	3,325,790	107,283	1,011,235	32,620	3,325,265	107,267	1,701,885	54,900	137,545	4,440
Philadelphia, Pa.	7,113,420	229,466	545,040	17,581	.....	.....	1,174,545	37,889	69,615	2,246	170,355	5,495
Portland, Me.	.....	.....	157,155	5,070	164,845	5,318	200,360	6,463	89,635	2,891	1,100	35
Providence, R. I.	99,985	3,225	664,430	21,433	554,165	17,876	1,023,285	33,009	107,925	3,481	17,435	562
Tiverton, R. I.	.....	.....	.....	.....	108,610	3,504	77,660	2,505	.....	.....	.....	.....
Wilmington, Del.	.....	.....	56,985	1,838	.....	.....	48,810	1,575	.....	.....	.....	.....
Unknown Atlantic	.....	.....	7,140	230	.....	.....	129,955	4,192	.....	.....	.....	.....
Total	13,195,530	425,662	6,048,035	195,096	2,644,890	85,320	8,682,520	280,082	2,695,460	86,950	366,815	11,835

Canal has been ended through an arrangement worked out between Standard Oil Co. of California, the Pacific Coast supplier, and the Sun Oil Co., Atlantic Coast recipient. Three tankers normally engaged in intercoastal service will be devoted in the future to augmenting the coastwise fleet, a move that will more than double their effective transportation capacity to the East Coast.

Total shipments from the Gulf Coast ports to the East Coast in January 1941 (see Table 1) totaled 39,688,720 bbl. of crude and products. Only 15 per cent of the total Gulf Coast loadings were discharged at ports south of Baltimore. Details of the table deal with 85 per cent of the coastwise traffic between Gulf of Mexico ports and large consuming and refining centers in Delaware, Maryland, New Jersey, New York, Pennsylvania, Connecticut, Massachusetts, Rhode Island, and Maine.

Movement Follows Pattern

Figures on coastwise movement of petroleum for the first 4 months of this year, although not yet available on a basis of points of origin and destination, show comparatively little change from the general trends indicated in January. This conclusion discounts seasonal changes in the types of products transported to the northern states. Crude oil shipped from the Gulf to East Coast ports, including all points of discharge from the tip of Florida north, averaged 435,590 bbl. daily during the first 4 months this year. Product shipments averaged 799,150 bbl. daily, making a combined average with crude of 1,234,740 bbl.

Supply of East Coast crude and products on the basis of 4 months data this year is indicated below:

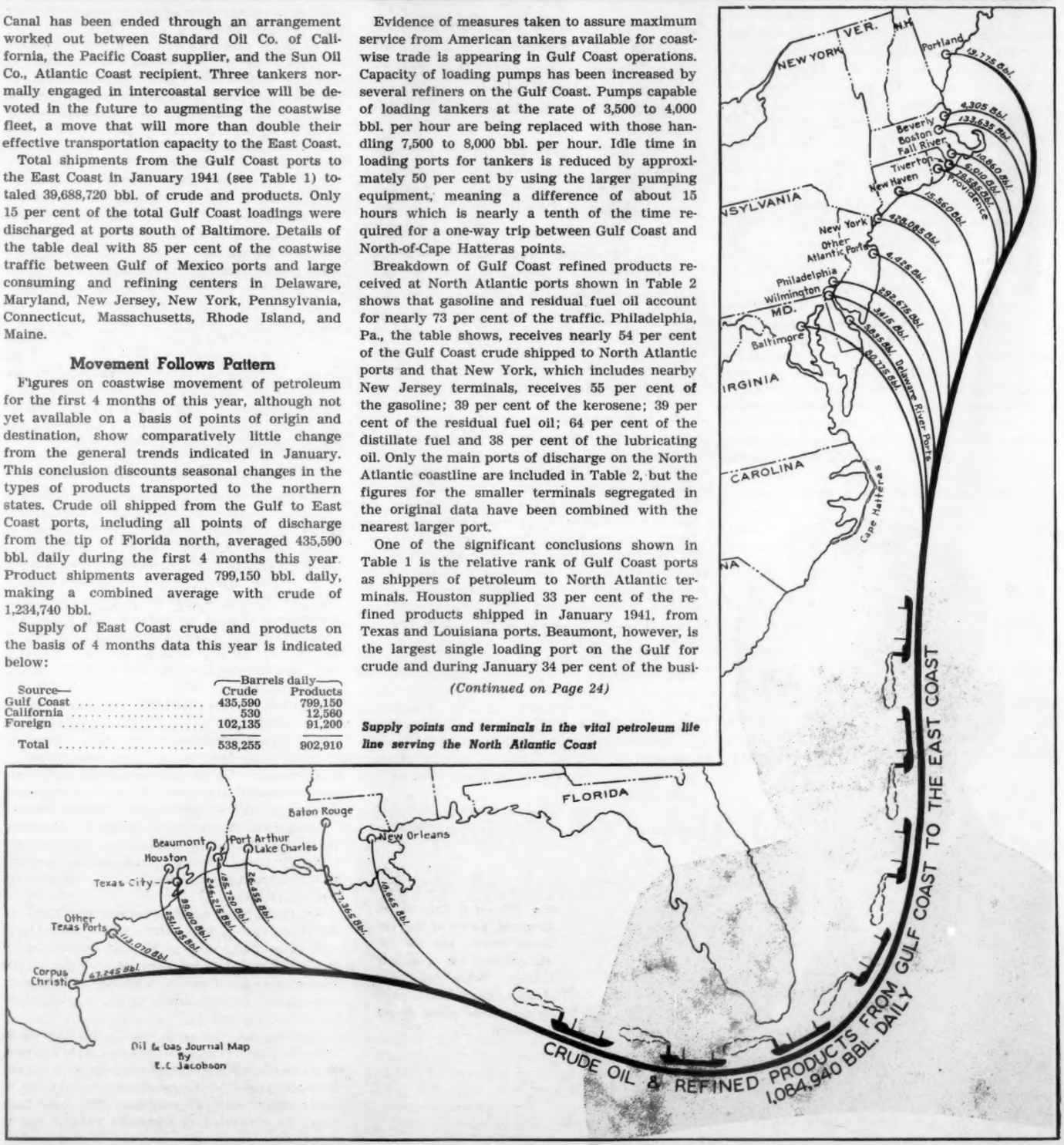
Source—	Barrels daily— Crude	Products
Gulf Coast	435,590	799,150
California	530	12,560
Foreign	102,135	91,200
Total	538,255	902,910

Evidence of measures taken to assure maximum service from American tankers available for coastwise trade is appearing in Gulf Coast operations. Capacity of loading pumps has been increased by several refiners on the Gulf Coast. Pumps capable of loading tankers at the rate of 3,500 to 4,000 bbl. per hour are being replaced with those handling 7,500 to 8,000 bbl. per hour. Idle time in loading ports for tankers is reduced by approximately 50 per cent by using the larger pumping equipment, meaning a difference of about 15 hours which is nearly a tenth of the time required for a one-way trip between Gulf Coast and North-of-Cape Hatteras points.

Breakdown of Gulf Coast refined products received at North Atlantic ports shown in Table 2 shows that gasoline and residual fuel oil account for nearly 73 per cent of the traffic. Philadelphia, Pa., the table shows, receives nearly 54 per cent of the Gulf Coast crude shipped to North Atlantic ports and that New York, which includes nearby New Jersey terminals, receives 55 per cent of the gasoline; 39 per cent of the kerosene; 39 per cent of the residual fuel oil; 64 per cent of the distillate fuel and 38 per cent of the lubricating oil. Only the main ports of discharge on the North Atlantic coastline are included in Table 2, but the figures for the smaller terminals segregated in the original data have been combined with the nearest larger port.

One of the significant conclusions shown in Table 1 is the relative rank of Gulf Coast ports as shippers of petroleum to North Atlantic terminals. Houston supplied 33 per cent of the refined products shipped in January 1941, from Texas and Louisiana ports. Beaumont, however, is the largest single loading port on the Gulf for crude and during January 34 per cent of the busi-

(Continued on Page 24)



Supply points and terminals in the vital petroleum life line serving the North Atlantic Coast

Early Passage of Pipe-Line Bill Expected Despite Opposition

By HENRY D. RALPH

Enactment of the Cole pipe-line bill, awaited by the petroleum industry before definitely launching construction programs to meet defense transportation requirements, is expected next week.

Railroad representatives and coal association officials opposed passage of the pipe-line bill before a Senate committee.

Edward B. Swanson, assistant director of the Petroleum Conservation Division, Department of the Interior, warned that urgency of assuring petroleum supplies to the East Coast made it desirable to avoid a delay of even 1 or 2 days.

WASHINGTON, D. C., July 1.—The Cole pipe-line bill, designed to facilitate the construction of petroleum pipe lines to alleviate the pending shortage of oil on the eastern seaboard, was favorably reported Saturday by a Senate interstate commerce subcommittee following brief hearings on the measure. It is expected that the full interstate commerce committee will report the bill to the Senate during this week and that the bill will be enacted into law within the next 10 days.

During the hearings, Rep. William P. Cole, Jr., of Maryland, author of the bill, urged its immediate enactment as a vital defense measure, and charged opponents of the proposed legislation with "blind opposition."

Mr. Cole recommended that the Senate consider the bill in its present form, as enacted by the House, in order to minimize any possibility of a delay in its passage. He told the subcommittee that he had "very little patience" with respect to suggestions of gasless Sundays, heatless days, and other restrictions on the use of gasoline and oil on the eastern seaboard "when we have abundant production" of petroleum.

Mr. Cole submitted letters from President Roosevelt, the secretaries of the War and Navy, and the Office of Production Management, urging enactment of the legislation as a vital defense need. He explained that the only shortage of petroleum on the East Coast is caused by a lack of transportation facilities caused by the recent transfer of 50 tankers to the British service.

The normal tanker fleet required to supply the needs of the heavily populated and industrial eastern seaboard, he told the committee, consists of 260 tankers. The transfer of 50 of these tankers has reduced the carrying capacity of the fleet by about 20 per cent, he said, adding that the petroleum industry is cooperating to the fullest extent with the federal Government in an attempt to work out a solution of the problem.

"One of the worst impediments to the defense program now is inadequate transportation to the eastern seaboard," Mr. Cole declared. "I hope the railroads will increase their carrying capacity."

Previously, the measure had been strongly opposed by railroad labor organizations on the grounds that construction of pipe lines would cause large reductions in railroad employment due to the substitution of oil for coal in many industries which might result from pipe-line transportation, as well as a loss of revenue through the shipping of petroleum products by pipe line rather than by rail.

Equal regulation for all forms of transportation was urged by J. A. Farquarson, representing the Brotherhood of Railway Trainmen. He told the committee that the railroads of the country were capable of taking care of a great deal heavier load than now exists.

The labor executive requested the committee to amend the bill to prohibit the operation of the pipe lines which might be built under the terms of the proposed legislation after the end of the present emergency. As a substitute to this proposal, he offered an amendment which would prohibit operation of the lines without specific authorization by Congress.

F. F. Estes, representing the National Coal Association, stated that his organization was neither for nor against the measure and had taken no official position on it. He said, however, that he was strongly opposed to any amendment which would permit the construction of natural-gas pipe lines as well as those for petroleum and products.

Such a provision, he declared, would "establish an undesirable precedent for a wholly commercial enterprise." He explained that the Coal Association is at present a party to a number of legal actions involving natural-gas companies, with particular respect to pipe lines. Adoption of such an amendment, he said, would seriously affect the rights of parties in these gas pipe-line cases which have not yet been adjudicated.

Rep. William P. Cole, Jr., of Maryland, author of the eminent domain pipe-line bill who criticized talk of gasless Sundays "when we have abundant production" in pushing for Senate action on the legislation

Swanson Urges Speedy Action

Edward B. Swanson, assistant director of the Petroleum Conservation Division of the Interior Department, speaking for Secretary Harold L. Ickes, warned that the extreme urgency and necessity for the legislation is such that a delay of even 1 or 2 days should be avoided, if possible, in enacting it into law.

Declaring that at the present time there is a deficiency on the East Coast amounting to approximately 250,000 bbl. of oil per day, Mr. Swanson asserted that the full effect of the recent tanker diversion will be felt within the next 2 or 3 weeks. Gasless Sundays and other restrictions on the use of petroleum products are inevitable, he said, unless every possible increase in transportation facilities is taken advantage of. The statement by the railroads that 20,000 tank cars are available to carry oil to the East Coast, he said, is "oversimplified and overemphasized."

Amendment of the bill to specifically authorize the construction of natural-gas lines was strongly urged by J. J. Hedrick, representing the Natural Gas Pipeline Co. of America, and the Texoma Natural Gas Co.

Mr. Hedrick stated that natural gas plays an important part in the defense effort, particularly with respect to industry. He told the committee that defense industries need natural gas at the present time and that any intention to build such lines before the current emergency should not be taken into account.

Pointing out that petroleum pipe lines built from the East Texas, Louisiana and Mid-Continent fields would not be able to compete with tanker transportation after the emergency is over due to lower tanker costs, he suggested that these lines might be converted to transport natural gas at that time.

This Week...

California producers have been given another 15-day extension by the Office of Price Administration and Civilian Supply to gather production-cost data. Meanwhile, the order reverting Pacific Coast oil prices to the May 22 postings is held in abeyance until July 15.

●

East Coast crude-oil stocks were reduced 195,000 bbl. in the week ended June 21 while those for the entire nation were dropping 1,322,000 bbl., a ratio of 1 to 7.

●

White House approval of the bill passed by the Senate Monday increasing tanker load lines will add about 3 per cent to the oil-transportation capacity of the coastwise fleet. First of the bills to pass Congress carrying specific relief for the oil-transportation shortage.

●

Cotton Valley, Louisiana, operators will unveil their $2,250,000 contribution to conservation at dedication ceremonies July 10.

●

Revocation of an injunction by a Louisiana District Court averted a potential threat to the oil-conservation program there. The new oil law is a part of the Louisiana legislative action which the injunction temporarily abrogated.

●

Massachusetts, by advocating 11-hour operation of service stations, and Washington, D. C., by suasion are experimenting with mild methods of restricting consumption.

●

Personnel of industry committees in the regional administration of the petroleum coordinator's duties is now expected to be designated within a week.

●

Research workers will make up 10 per cent of the petroleum refining industry's personnel in 1950, if the current projection of the trend is continued.

W. C. Yeager, vice president of Atlantic Refining Co. whose name will ride the high seas on the bow of the company's newest tanker. The new oil carrier will be launched July 7 and within a few weeks will be added to the fleet transporting petroleum in the coastwise trade

●

Six separate pipe-line projects are under consideration for East Coast relief. It's up to Coordinators Ickes and Davies to recommend which one or more best qualifies for defense requirements. A bloc is seeking a more northern route passing nearer fields and refining centers of the Mid-Continent and Middle West.

Enforced unitization of the Logansport gas field in Louisiana was ordered. Part of the Mineral Board's reasoning was that threatened shortage of pipe and equipment might otherwise prevent equitable development.

●

The Benton field, Franklin County, Illinois, currently producing about 27,000 bbl. daily, is chiefly responsible for reversal of that state's production curve. Rumors are that the Trenton or St. Peter will be tested at Louden.

●

Loading facilities have been and are being installed at Gulf Coast docks to reduce time in port of oil tankers at least 50 per cent.

●

Refiners in the Mid-Continent, Gulf Coast and Middle West advanced gasoline prices ⅛ cent. Major companies bought extensively on the Gulf, reviving activity there that had been in the doldrums for weeks.

●

The youngish liquefied-petroleum-gas industry promises to expand its sales volume by at least 25 per cent this year. Demand for 375,000,000 to 400,000,000 gal. is in prospect.

●

The petroleum coordinator's office in Washington is considering action freezing existing relations between suppliers and customers.

●

A committee of lawyers representing oil-company defendants in the antitrust suit is to make its final report within 2 or 3 weeks sans recommendation. Suits brought against pipe lines under the Elkins Act are the most difficult problem.

●

The rush to move all possible petroleum to the East Coast before full effect is felt of tanker diversions resulted in record June shipments from some Gulf Coast terminals.

●

Two Danish tankers seized in United States ports have been turned over to American oil companies for operation in the Western Hemisphere. A sprinkling of relief for the transportation situation.

Sen. Tom Stewart, of Tennessee, acting chairman of the subcommittee, and author of an amendment which would permit the construction of gas lines, stated at the close of the hearing that he had concluded not to offer his amendment.

This decision, he said, was reached following the testimony of Mr. Swanson and the receipt of a letter from Petroleum Coordinator Ickes urging early enactment of the bill, and expressing the fear that such an amendment might prove so controversial as to hold up action on the measure.

The proposed amendment had been vigorously opposed by Louis C. Madiera, executive director of the National Anthracite Institute, on the grounds that construction of natural-gas pipe lines had no place in the defense picture and would be "foreign to the purpose of the bill."

Mr. Madiera asserted that the anthracite industry is fully capable of meeting all heating needs along the East Coast.

"Anything which would infringe on the anthracite market," he declared, "would create havoc" among the anthracite, as well as bituminous, coal miners.

Opposition to this provision was also expressed by Earl E. Houck, chief of the legal department of the United Mine Workers of America (C.I.O.), and John D. Battle, of the National Coal Association, who stated that he wholly disagreed with any interpretation which would describe natural gas as a petroleum product.

Mr. Swanson also appeared before the committee on Saturday in a secret session, to present testimony as to the vital need for pipe lines from a military standpoint as well as in our all-out program of aid to Britain.

Regional Priority Offices Will Aid Industry in Supply Problem

WASHINGTON, D. C., July 1.—Regional priority offices will be extended to other parts of the country as rapidly as organization can be completed, it has been announced by E. R. Stettinius, Jr., director of priorities.

"The field offices will be staffed by representatives of the Priorities Division who, following a training period in Washington, will be able to help and advise business men and manufacturers who have difficulty with priorities questions," Mr. Stettinius announced.

"Two member of the Priorities Division's executive staff, L. Edward Scriven and E. C. Laird, Jr., both assistant deputy directors, will be in charge of the regional field offices.

"Four of the regional offices have been opened. They are in Boston, New York, Philadelphia, and Chicago. Others will be opened soon.

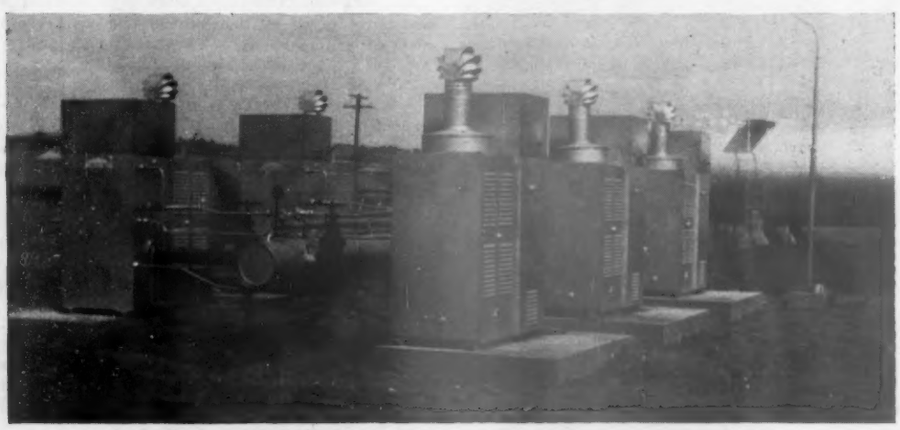
"The Priorities Division district managers will work in close cooperation with regional defense contract service coordinators in their areas. They will be equipped to advise business men on procedure to be followed in making application for preference ratings, the proper method of filling out forms and questionnaires, methods to be used in adapting their business practices to new conditions, and on any other questions arising in connection with the priorities system."

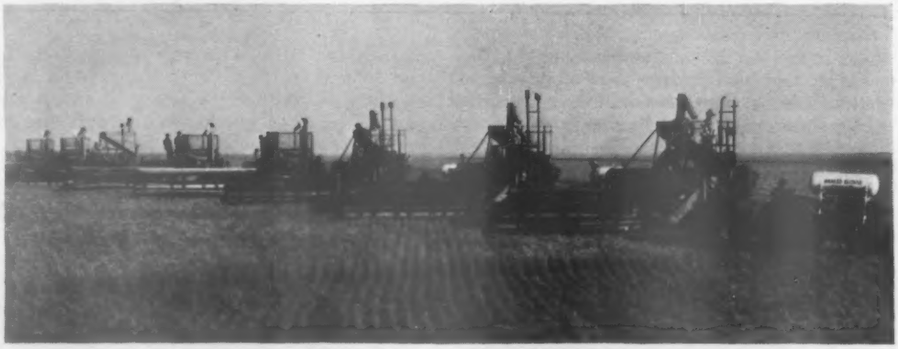
Sales of Liquefied Petroleum Gases Setting Record Pace

By D. H. STORMONT

DAILY average consumption of liquefied petroleum gases this year will pass the 1,000,000-gal. mark if sales during the remainder of the year maintain the percentage increase recorded during earlier months. Sparked largely by the booming domestic or "bottled gas" branch of the industry, sales of leading manufacturing and marketing companies so far this year are exceeding those of 1940 by about 25 per cent. With one-half of 1941 already behind, and with present indications pointing to even greater consumer demand during the latter portion, it is expected that 1941's total sales will reach 375,000,000 gal. with no great difficulty and possibly may soar past 400,000,000 gal.

One large producer and marketer of butanes and propane reported that its truck-line sales of liquefied petroleum gas during the first 5 months of this year were 39 per cent higher than in the like period of 1940, its pipe line and tank-car sales 60 per cent higher and its total sales 55 per cent more. The record of this one company, however, is outstanding as other companies reported increases in the order of 20 to 30 per cent, which are thought to be more representative of the industry's record as a whole.





Left: Keeping step with the rapid growth in use of liquefied petroleum gases, facilities for large-scale, efficient mixing of these fuels with air likewise are improving. This installation, for a large community housing project, is capable of making butane-air mixture gas equivalent to natural gas in B.t.u.'s at the rate of 50,000 cu. ft. per hour. Below: An increasing number of tractors used on farms, as well as in construction work, are being converted to use of butane as fuel. At this New Mexico wheat farm eight butane-burning tractors are being used in harvesting the crop

1940 Was Record Year

In 1940 the liquefied-petroleum-gas industry made greater forward strides in expanding its markets than in any year since 1934, when a 44.9 per cent increase in sales was shown. Last year the increase was 40.2 per cent. However, in 1934 the industry was in its infancy and the 44.9 per cent gain represented only 16,500,000 gal. In 1940, the 40.2 per cent increase amounted to almost 90,000,000 gal. Thus should the present demand be extended throughout the year, the industry will have expanded its daily average sales from less than 1,000 gal. to over 1,000,000 gal. in the space of 18 years.

Increased consumption in the domestic field is contributing much to the liquefied-petroleum-gas industry's expansion. However, increased industrial activities, resulting from generally better business conditions and to a minor extent the national-defense program, also are causing sales of these gases to expand. The decline of natural-gas supply in some eastern areas, or the inability of the fields to cope with the heightened demand brought on by the war industries activities, is resulting in the liquefied gases being called upon to replace the natural gas. Then, too, there is the outright competitive displacement of manufactured gas and other fuels by butane and/or propane fuels.

To meet the increase in demand for these fuels, some facilities for extracting butanes and propane have been added at natural-gasoline plants during the past year. A good proportion of the higher output, however, is due to many manufacturers regulating their operations to make deeper cuts of butanes and propane than in the past. With a firm demand existing for these products, natural-gasoline manufacturers no longer regard them as byproducts. Accordingly, where economics permit, they operate their plants to recover more low vapor-pressure natural gasoline and higher yields of propane and butanes.

In this connection a recent survey conducted by The Oil and Gas Journal (Apr. 24, 1941, p. 20) placed the total liquefied-petroleum-gas capacity of natural-gasoline plants at 2,000,000 gal. Or, capacity at natural-gasoline plants is approximately twice the present daily average consumption. This would indicate that the industry is not materially overbuilt, considering the wide seasonal variation in demand and the extent to which the butane-propane output of natural-gasoline plants depends upon the volatility demand of refineries.

Facilities for transporting liquefied petroleum gases may prove to be somewhat of a controlling factor in the volume of increase registered by the industry over the remainder of the year. Over 80 per cent of these fuels are marketed in tank-car or tank-wagon lots, with rail shipments being made as far as from the East Texas field to New England states. In some shipments, therefore, over 2 weeks are required for a tank car to reach its market and return. Also, special tank cars are required for moving these fuels due to their high vapor pressures. Thus with only a limited number of tank cars at its disposal (some 1,300), and delivery of new ones hindered by national-defense activities, it is possible that the industry may face a car shortage this fall when heavy consumption in the domestic market begins.

One factor acting to increase the domestic sales of liquefied petroleum gases is that in the construction of new homes a greater percentage of appliances burning these fuels are being installed. A substantial portion of the new residences being erected at present are financed by the F.H.A. or H.O.L.C. with relatively long-time payouts. Therefore, in areas where natural gas is not available, ranges, furnaces, water heaters, refrigerators and space heaters burning liquefied petroleum gases can be installed and their cost paid

out over a period of several years. Until this method of financing was made available to builders of new homes, bottled-gas companies were at a disadvantage in competing with electric power. This was caused by the Rural Electrification Administration and the Electric Farm and Home Authority which finances the sale of appliances on easy terms and low interest rates.

The decrease in installation costs of equipment using bottled gas has also been a large factor in expanding sales of these fuels, since by lowering these costs new markets were opened in the low-income brackets. Installation costs in 1928 averaged about $36.50, whereas today the average is in the neighborhood of $9.75. That the industry added some 325,000 new domestic customers during 1940, to bring the total to about 1,125,000 at the first of this year, was also due to this factor to some extent.

The increase in domestic use of liquefied petroleum gases (a 53 per cent gain over 1939 being shown in 1940) is more or less general throughout the United States, although most rapid growth is being shown in the southern and southwestern states. Many companies have enlarged bulk plants to handle their increased number of customers and are constructing new stations as their spheres of marketing enlarge. A great amount of this work is now going on as they prepare for the heavy winter consuming season, so that it will be the latter part of this year before the full effect of the new bulk plants is felt by companies manufacturing these fuels.

As the mild winters of the southern states permit use of underground storage, rather than replaceable cylinders, more and more of the systems being installed are of the underground type using butane or butane-propane mixtures.

This trend is reflected in recent Bureau of Mines figures which showed that for the first time in recent years there was a decrease in the proportionate amount of liquefied petroleum gases handled in cylinders, from 24 per cent in 1939 to 22 per cent in 1940. Also that butane and butane-propane mixtures are becoming much more important as a domestic fuel, there being a 30,500,000-gal. gain in these fuels in 1940 over 1939, whereas propane consumed in this use increased only 16,000,000 gal. (see Table 1).

Effect of New Refinery Processes

The reformation of butanes into high-quality aviation fuels by polymerization, alkylation or other processes on an enlarged scale is another factor tending to increase the demand for these materials. Construction of these plants is going forward rapidly so that more and more of the refinery butanes will be utilized. The large supply of butanes available at refineries leads to the assumption that isobutane from natural-gasoline plants will be called upon to a much greater extent than normal butane in supplying the charging stock to these new units. The quantities of isobutane removed from the liquefied-petroleum-gas market, however, will be replaced by normal butane and butane-propane mixtures so that the net result is a curtailment in the volume of these materials available to meet the demand of other uses.

Increased industrial activity is requiring more fuel in the form of butane and propane, and with an increased number of users in the industrial field, the liquefied-petroleum-gas industry is sharing the increased volume of business. In the chemical industries, which likewise are feeling the effects of national-defense activities, increased sales of butanes and propanes are also being reported.

Although the volume of butanes consumed in internal-combustion engines represents less than 20 per cent of the total liquefied-petroleum-gas sales, this usage is showing the greatest percentage increase. In the transportation field use of these fuels in the past has been confined to the Pacific Coast to a great extent. In other areas and chiefly in the Mid-Continent, however, truck-line operators are becoming more aware of the economies offered by butane and are converting their trucks to burn butanes. As the greatest efficiency is realized from butane fuels in slow-speed, long-stroke engines, these fuels are becoming increasingly popular on farms and in construction work for driving tractors and draglines. The oil industry itself is also utilizing more and more butane as fuel in its drilling operations.

Figures on 1940 sales of liquefied petroleum gas released by the Bureau of Mines earlier this month show that a gain of 40.2 per cent was registered during that year. This remarkable increase, following a 35.3 per cent gain in 1939, brought the year's total to 313,456,000 gal. Thus in the short period of 3 years, sales of liquefied petroleum gases have doubled and in 5 years have more than tripled. (See Table 1.)

Important gains were registered in all principal uses of these liquefied hydrocarbons, compared with consumption in 1939. (See Table 2.) Sales in the bottled-gas branch made the 53 per cent gain mentioned previously. Gas-manufacturing companies bought 31 per cent more of these petroleum fractions than in 1939, for mixing with their manufactured gas and for direct distribution through their mains to consumers. Sales for use as industrial fuels, which had recorded a 59 per cent gain in 1939 following a loss in 1938, showed only a minor gain of 12 per cent. The chemical industry, with a consumption of 34,671,000 gal., purchased 29 per cent more of these gases in 1940 than in the preceding year. Largest percentage increase, however, was shown in the usage of liquefied gases as fuel for internal-combustion engines, an 81 per cent gain over 1939 sales to the peak total of 53,917,000 gal.

New Standards Change Proportions

In recent years sales of these liquefied gases have, broadly speaking, comprised nearly equal portions of propane, butane and butane-propane mixtures, plus an unimportant percentage of pentane. Deliveries reported by the bureau in 1940, however, show a deviation from the past records in that, although there was little change in the propane share (about 35 per cent of total sales in both 1939 and 1940), the relative percentages of butane and butane-propane mixtures in the total changed noticeably. Butane declined from 32 per cent of the total sales in 1939 to 25 per cent in 1940, while butane-propane mixtures gained correspondingly from 31 per cent in 1939 to 39 per cent in 1940.

Some of this shift in the percentages of butane and butane-propane mixtures in total deliveries is believed due to diversion of butanes (mostly isobutane) for the manufacture of high-quality motor fuels, synthetic rubber and other specialty products. However, much of the change of the relative proportions is thought to be due to the fact that in reporting 1940 sales to the Bureau of Mines, distributors were asked to follow specifications for liquefied petroleum gases as set by the Natural Gasoline Association of America, effective September 1, 1940. In previous years no agreed-upon or exact specifications were used to separate the several gases reported in the survey, thus it is possible there was some variance as to the dividing line between butane and butane-propane mixtures.

TABLE 1—SALES OF LIQUEFIED PETROLEUM GASES, 1930 TO 1940

(Bureau of Mines data)

	Butane	Propane	Butane-propane mixtures	Pentane	Total	Per cent increase over previous year
1930	.....	11,500,000	*6,517,000	.....	18,017,000	81.4
1931	.....	15,000,000	*13,769,000	.....	28,769,000	59.7
1932	14,662,000	15,181,000	3,417,000	854,000	34,114,000	18.6
1933	19,056,000	15,835,000	3,226,000	814,000	38,931,000	14.1
1934	25,553,000	18,681,000	10,271,000	1,922,000	56,427,000	44.9
1935	34,084,000	26,814,000	13,492,000	2,465,000	76,855,000	36.2
1936	40,200,000	36,502,000	27,375,000	2,575,000	106,652,000	38.8
1937	45,399,000	46,474,000	46,694,000	2,833,000	141,400,000	32.7
1938	52,768,000	54,130,000	56,050,000	2,253,000	165,201,000	16.7
1939	71,351,000	79,323,000	69,020,000	3,886,000	223,580,000	35.3
1940	77,056,000	109,216,000	123,348,000	3,836,000	313,456,000	40.2

*Includes butane, propane-butane mixtures and pentane.

TABLE 2—MARKETED PRODUCTION OF LIQUEFIED PETROLEUM GASES BY USES, 1936-1940

(Bureau of Mines data)

Usage—	1940	1939	1938	1937	1936
Butane:					
Domestic	21,302,000	17,881,000	13,194,000	6,047,000	2,956,000
Gas manufacturing	10,847,000	9,796,000	8,270,000	7,325,000	6,227,000
Industrial fuel	33,166,000	36,388,000	23,405,000	28,071,000	28,553,000
Chemical manufacturing	10,000	42,000	43,000	207,000	(*)
Engine fuel	11,242,000	5,850,000	5,025,000	1,715,000	2,367,000
Other uses	489,000	1,394,000	2,831,000	2,304,000	97,000
Total	77,056,000	71,351,000	52,768,000	45,399,000	40,200,000
Propane:					
Domestic	68,927,000	52,533,000	37,556,000	30,436,000	24,423,000
Gas manufacturing	5,201,000	2,083,000	1,491,000	1,077,000	944,000
Industrial fuel	33,122,000	23,685,000	14,316,000	14,490,000	11,030,000
Chemical manufacturing	987,000	249,000	347,000	77,000	(*)
Engine fuel	915,000	663,000	380,000	278,000	105,000
Other uses	64,000	110,000	40,000	116,000	.....
Total	109,216,000	79,323,000	54,130,000	46,474,000	36,502,000
Propane-butane mixtures:					
Domestic	43,133,000	16,093,000	6,316,000	3,504,000	2,048,000
Gas manufacturing	4,191,000	3,483,000	2,617,000	2,765,000	2,200,000
Industrial fuel	3,508,000	2,155,000	1,112,000	699,000	13,122,000
Chemical manufacturing	30,636,000	23,957,000	30,496,000	24,601,000	(*)
Engine fuel	41,761,000	23,279,000	15,509,000	14,994,000	10,004,000
Other uses	119,000	53,000	.....	131,000	1,000
Total	123,348,000	69,020,000	56,050,000	46,694,000	27,375,000
Pentane:					
Domestic	656,000	1,023,000	766,000	836,000	587,000
Gas manufacturing	46,000	73,000	8,000	8,000	
Industrial fuel	96,000	112,000	16,000	50,000	1,880,000
Chemical manufacturing	3,038,000	2,644,000	1,413,000	1,907,000	(*)
Other uses	.....	34,000	50,000	32,000	108,000
Total	3,836,000	3,886,000	2,253,000	2,833,000	2,575,000

*Volume consumed in chemical manufacturing included in "industrial fuel."

Benton Is Best Field Found in Illinois This Year

Failure of Franklin County to get a deed for half the roadway bordering an 80-acre tract led to drilling of wells down one side of the road

By HARRY F. SIMONS

BENTON, Ill.—The Benton pool in the heart of Franklin County, Illinois, is the best field discovered in the Sucker State so far during the current year, with a daily average production of over 25,000 bbl. at the present time. It is one of the principal factors in the recent jump in Illinois production and it has been responsible for the high number of active operations carried on reports for the past several months. It is the first large sand production discovered in the southern part of the basin and it gives an even more optimistic tone to the southern and southeastern part of the state.

Discovery of the pool is the result of extensive surface and subsurface geological work done by J. V. Howell, independent geologist. The structure was mapped from information obtained from mine-prospecting holes and from trips into the coal mines in the area. Principal difficulty in such a job is the elimination of false or inaccurate information as in many cases there are no records and the investigator must get verbal reports from those connected with old operations. The area was later seismographed.

Benton is not Franklin County's first oil field, first production in the county being from the one-well Whittington pool, which produces from the St. Louis lime. Attractive production was discovered in the Thompsonville pool late last summer with the pay being found in the McClosky lime; 18 producers were completed in that field. Pay in the Benton field is from the Tar Springs sand and over 100 producing wells have been completed. During a recent week there were 50 active operations, including locations, drilling wells and wells in the process of completion. During the past week there were 14 new oil wells completed in the field, bringing the total number of oil wells in the pool to 114.

The Tar Springs in the Chester series (Upper Mississippian) is one of the best developed sands found in the Illinois basin. It covers a wide area, is generally continuous and has favorable porosity and permeability. The only drawback has been that it ordinarily contained salt water and no oil and it began to be discounted as a possible source of production. With the drilling campaign in the southeastern part of the state, the Tar Springs was found to be productive in several pools, notably Calvin, North New Harmony and Roland, in White County, and Griffin and Mount Carmel in Wabash County. None of these fields has compared with the Tar Springs as it is found at Benton.

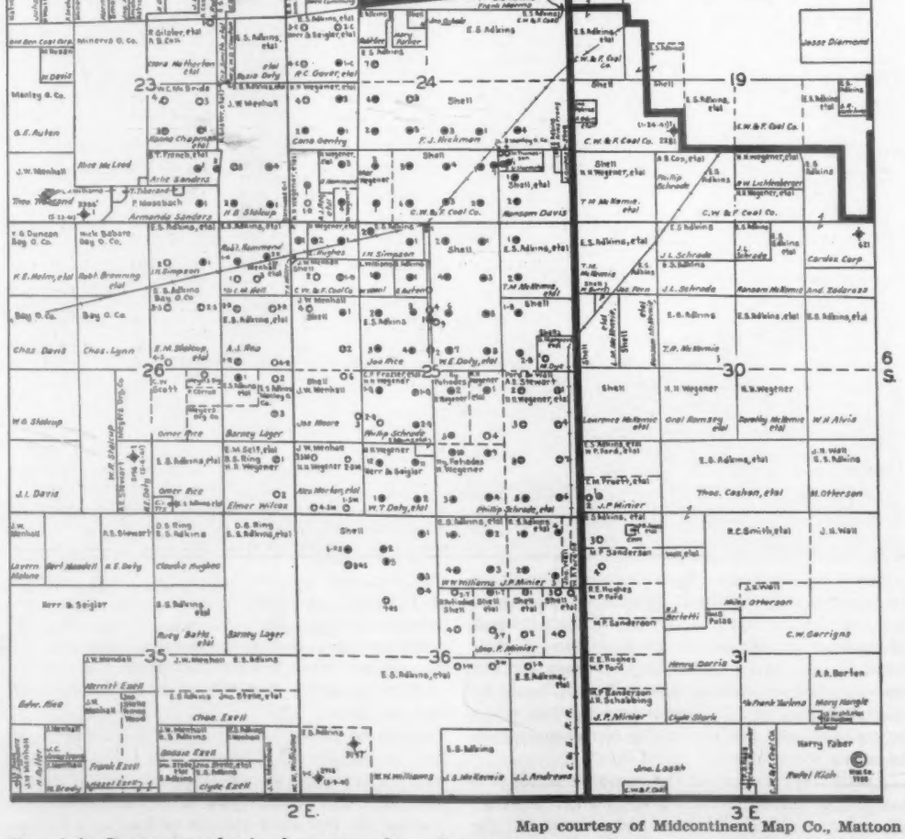
Importance of Tar Springs Pay

Since Benton has jumped into prominence, operators have been encouraged to look for Tar Springs production and a new pool was recently opened in that formation near Sailor Springs in Clay County. Some operators are hopeful that considerable oil may eventually be found in this sand.

The production obtained at Benton is due to a combination of the development of the sand plus the closure of the structure. The closure on three sides is very good while on the fourth there is less closure but the sand shales out and the porosity and permeability diminish to form a trap. This shaly zone is on the south side of the field but further south the Tar Springs again becomes productive. The southernmost well in the Benton pool is in NW NE NW SE of Section 36-6s-2e, while there is a Tar Springs well approximately 2 miles south in what is called the West Frankfort pool. This well is the E. S. Adkins 1-B Orient Coal Co., SE NE NW 12-7s-2e. Whether the sand body will be as good in this area as it is in Benton proper is something to be determined. The exact extent of the unproductive area between the two pools is interesting to operators in the area.

A conservative estimate of the productive acre-

(Continued on Page 26)



Map courtesy of Midcontinent Map Co., Mattoon

Map of the Benton area showing lease ownership and development. Town-lot play was killed by dry holes just outside the city limits

Wider Gas-Well Spacing Ordered in Louisiana

By GEORGE WEBER

SHREVEPORT, La., June 30.—Initial recognition was given the federal Government's request for wider well spacing, in an order issued last week by the Louisiana Department of Minerals. The order fixes a 320-acre spacing pattern for gas wells in the Jeter horizon in the Joaquin-Logansport gas field of De Soto Parish.

The field order was awaited with considerable interest by Louisiana operators, for the finding of fact upon which it was based was determined during three hearings held in April, May and June. A majority of the operators interested in the field asked for wide spacing while most landowners and one particular operator sought a 40-acre pattern. The order is important for two reasons: First, it is the initial order to set a spacing pattern for a gas field in the state, and secondly, it provides for an allowable production of gas based solely on acreage.

Act 157 of 1940, which is recognized as the best state conservation act in effect, enables the Louisiana Department of Minerals to render the wide spacing practicable through enforced unitization of drilling units. By so setting development rules, the state body has provided for early and complete drilling of the field, whereas without wide spacing, portions of the field may have remained permanently undeveloped. Partial or long-term development of the gas field would have resulted in inequity as to sharing of returns by owners of operating and royalty interests.

Finding of Fact

In the finding of fact which accompanied the order, the department cited the reasons for setting wider spacing. The Joaquin field is productive of gas over an area of about 25,000 acres located in Shelby County, Texas, and De Soto Parish, Louisiana. In the Louisiana portion of the field, affected by the order, 15,000-16,000 acres are estimated to be productive. Five wells have been drilled to the Jeter horizon, averaging 4,900 ft. in depth. The condensate fraction of the high-pressure gas averages 0.3 gal. per 1,000 cu. ft., and the wells show open-flow characteristics averaging 100,000,000 cu. ft. per day. The horizon constitutes one reservoir and porosity and permeability of the producing formation are unusually high. The average reservoir pressure is estimated to be 2,700 lb. per sq. in. From these and other data presented before the department, one well was reasonably considered capable of draining an area in excess of 320 acres.

Spacing Program

Each well will be allocated one-half of a government section, such tracts consisting of two adjacent government quarter sections located within the same section. Each well will be located as nearly as practicable in the center of either of the government quarter sections allocated to the well. Not more than two wells shall be allowed to one section.

In irregular sections, along the Sabine River, which is the Texas-Louisiana state line, proper and efficient spacing as nearly similar to that in regular sections will be maintained, but not more than 360 acres may be allocated to one well. Exceptions from the spacing rules set forth may be granted at the discretion of the director of minerals after proof that a change will result in prevention of waste has been presented at a hearing.

Section 9 (*a*) of the Louisiana Conservation Act authorizes the state to require pooling of interests in drilling units. Costs and returns on development operation will be shared in such cases in the proportion that each party's acreage bears to the total acreage in the unit. By this means, every landowner whose property is underlain by commercial production will share equitably in its exploitation.

Although wide spacing was reasonably expected in the order, the recent request of the federal Government to conserve steel for pipe lines by limiting close well drilling was cited in this language: "It is found . . . that there exists a national emergency, and because of national-defense requirements resulting from such emergency there is a shortage of pipe and other well equipment, and the avoidance of the drilling of unnecessary wells is of vital importance to the defense program. Therefore, it is in furtherance of the national interest that no unnecessary wells be drilled in the Logansport field, and a 320-acre spacing pattern will effectuate that result. That under a well spacing of less than 320 acres it is to be reasonably expected that there would only be available sufficient pipe and well equipment to develop portions of the field, leaving other portions thereof undeveloped, which would operate adversely to the rights and interests of owners of tracts, and development of which would be delayed because of inability to secure pipe and well equipment."

Gas Allowable

For the present, prior to such time that the market demand for gas from the field shall have once exceeded 600,000,000 cu. ft. per month, each operator of a well will be allowed to produce that quantity of gas which can be sold or otherwise utilized without waste. After such a time as the 600,000,000-cu. ft. demand has been exceeded once, the field allowable will be determined bimonthly after nominations of purchasers have been presented in open hearing. Since all wells completed to date have similar open-flow characteristics and the reservoir pressure is relatively uniform throughout the field, the per-well allowable will be determined on the basis of acreage allocated to each well. Producers can meet future unforeseen demands for gas, which exceed their allocated production, by increasing the take, ratably from all wells to which they are connected, and filing notice of such act with the director of minerals.

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Lethbridge Gas Extension

LETHBRIDGE, Alta. — Canadian Western Natural Gas, Light, Heat & Power Co. has started laying approximately 7 miles of 6-in. line to deliver natural gas from its local system to the bombing and gunnery school at Kenyon Air Field.

DIRECT PHILLIPS' REFINERY OPERATIONS . . .

W. G. HIATT *J. W. MITCHELL* *HUGH MILLER*

Phillips Petroleum Co. has created two new executive positions in its refining department to handle increasing functions resulting from defense activities. The two new positions are general superintendent of refinery operations and manager of the refining department's general office. Both these new offices report directly to W. G. Hiatt, manager of the refining department.

Selected to fill these two positions were Hugh Miller, superintendent of Phillips' Borger refinery and J. W. Mitchell, superintendent of the Kansas City, Kans., refinery. Mr. Miller will be general superintendent and Mr. Mitchell will be manager of the general office.

Mr. Miller began his refining career with the Alamo Refining Co. at Borger, Tex. He was superintendent of construction during the time the Alamo plant was being built and remained in charge of operation after construction was completed. When the Alamo company was absorbed by Phillips in 1928, Mr. Miller was retained as refinery superintendent, and during the 13 years of Phillips ownership, successfully piloted the plant through a period of continuous growth and improvement.

Mr. Mitchell's career with the Kansas City refinery began in 1928 when it was the property of the Independent Oil & Gas Co. He has been in charge during the period of the refinery's greatest growth and modernization.

Other personnel changes announced by Mr. Hiatt include the transfer of E. H. Bender to Borger, as refinery superintendent, and transfer of J. E. Bogk, chief process engineer of Bartlesville, Okla., to Kansas City, succeeding Mr. Mitchell as refinery superintendent.

Mr. Bender was formerly manufacturing superintendent of the Borger plant, and for the past 2 years has been general office manager at Bartlesville.

Mr. Bogk was previously manufacturing superintendent at the Kansas City refinery, and returns after an absence of 2½ years to assume the direction of the plant where he was formerly located.

STATE CAPITALS...

LOUISIANA

JULY ALLOWABLE was reduced 16,103 bbl. daily from the June figure because, officials of the Minerals Department said, the diversion of 50 United States tankers has reduced coastwise movement of petroleum and caused an accumulation of stocks to an extent that an adjustment was necessary. The July allowable of 303,397 bbl. daily compares with the Bureau of Mines forecast demand of 304,000 bbl.

"Our department ordered the reduction," said John J. Metzger, Jr., chief engineer of the Minerals Department, "on the recommendation of the Bureau of Mines. Oil stocks are piling up on our Gulf Coast and I am sure the same situation exists in Texas. There just isn't any way of moving it."

Bulk of the reduction in the July order was made in the allowable for South Louisiana fields.

DIRECTOR OF MINERALS JOSEPH L. McHUGH has issued notices for a state-wide hearing July 8 in New Orleans, at which additional evidence of market demand will be heard. The hearing was called as a result of protests by state producers, following a 16,000-bbl. reduction in daily prorated oil for July. The reduction was made after the last hearing upon recommendations from the U. S. Bureau of Mines and upon the basis of increasing coastal stocks caused by reduced coastwise transportation facilities.

Purchasers of Louisiana oil report that they are finding it difficult to fulfill contracts at present, and at the July 8 hearing such evidence will be considered with the possibility that the allowable may be increased.

CALIFORNIA

THE CONSERVATION COMMITTEE of California Oil Producers, official curtailment group, stepped up the July production allotment 25,904 bbl. daily and thus for the month of July the allowable state production will be 601,939 bbl. as compared with 576,035 bbl. per day. A. H. Bell, chairman of the Conservation Committee, said it was expected that many operators who had been showing a tendency to overproduce during recent months would now comply more nearly with their individual allotments and that the state overproduction would thereby be reduced. This is another way of saying that the committee has been unable to get operators to curtail production to the prescribed allotment and therefore the allotment would be raised to approximate current production exclusive of a few operators who are producing some wells wide open. In other words the committee raised the allotment in order to reduce the overproduction. No change was made in the top allowable of 142 bbl. daily as the additional allowable now available will be allocated to intermediate wells which fall principally in the group producing 23.9-gravity oil and under which is the grade of crude oil required to meet the demand for fuel oil. In order to take care of new wells an additional net production of 6,170 bbl. was reserved. No additional allotment was made to top wells but in the general discussion it was brought out that if greater compliance with allotments occurred during July, additional allotments made in subsequent months would also include the top well bracket.

ALL RECORDS for the consumption of gasoline in California were broken during the month of May. On the basis of assessments made against the distribution of 187,459,098.7 gal., the tax for the month amounted to $5,623,772.97. This tax represented a gain of $898,347.96, or 19.01 per cent, over the same month of the previous year. The assessment was not only the highest for any single month in the history of the tax, but the percentage of gain also was the greatest.

Board records revealed that during the first 5 months of the current year, the distribution of gasoline in California has amounted to 831,163,596 gal., on which state taxes totaling $24,934,907.97 have been assessed. This represents an average of almost $5,000,000 a month.

OKLAHOMA

DAILY PRODUCTION of 415,000 bbl. in July was authorized this week by the Oklahoma Corporation Commission. This month's allowable is the same as in June.

The Hobart field of Kiowa County, a section that lacked a market for an extended period, was assigned July allowable of 4,200 bbl. daily, double the withdrawal authorized in June. Omar Refining Co. of Garber, Okla., nominated to purchase 1,500 bbl. daily in the Hobart field. Stanolind is running 2,000 bbl. from Sunray Oil Co. properties and Phillips Petroleum Co. is handling 700 bbl. daily for its own account. Producers in the Guthrie field agreed to reduce production from 400 to 300 bbl. daily per well and the same figure was accepted by operators in the Tecumseh Lake field, Pottawatomie County.

New field added in the Class B list was West Hewitt in Carter County, where potentials are being taken this month. The field's quota was set at 8,500 bbl. daily, with a 50-bbl.-per-well marginal. Although discovered nearly 2 years ago, the field has been prorated by pipe-line companies.

The East Stroud-Prue was added in the unclassified list with allowable of 4,000 bbl. daily, and a top of 200 bbl. per well daily.

The Shawnee pool was reduced from 1,450 to 1,100 bbl. daily and the Fitts-Upper Simpson was cut from 8,000 to 7,000 bbl. daily.

Recommendations in unclassified prorated areas included:

Adams pool, changed from 750 to 700; Coyle from 4,000 to 3,900; East Cromwell from 2,000 to 1,800; Cumberland from 6,700 to 6,500; Dill from 5,000 to 4,000; North Earlsboro Wilcox from 3,600 to 3,500; South Konawa from 2,700 to 3,000; East Okemah from 275 to 350; North Little River, 400 to 275; Oklahoma City, lower Simpson, from 10,000 to 9,600; Prague from 1,200 to 1,100; Ramsey from 3,700 to 4,600; Romulus from 2,500 to 3,000; North Shawnee from 500 to 400; North St. Louis from 500 to 900.

By classifications the allowable shows: The Oklahoma City Wilcox zone, only Class A pool, unchanged at 75,000 bbl. daily; Class B increased from 16,500 to 24,650 bbl.; Class C (the Fitts pool group) cut from 12,500 to 11,500 bbl.; the unclassified group increased from 72,480 to 78,530 bbl.; total prorated increased from 176,480 to 189,680 bbl., and the unprorated pools reduced from 238,320 to 225,320 bbl.

TO DEDICATE PLANT . . .

GOV. SAM H. JONES of Louisiana will head a party of state officials and citizens in the ceremony at Cotton Valley July 10 dedicating the pressure-maintenance plant there. The Cotton Valley plant, costing $2,250,000, is considered one of the most advanced steps yet taken by operators in furthering conservation practices

NEW MEXICO

A REDUCTION of 4,400 bbl. in the July daily allowable crude production, lowering the authorized output to 108,600 bbl. daily, was ordered last week by the Conservation Commission. The reduction was attributed entirely to the shortage of transportation facilities from the Gulf Coast to eastern seaboard points, a channel through which substantial quantities of New Mexico's production reaches consumers.

Hiram Dow, New Mexico's representative on the Interstate Oil Compact Commission, predicted at Santa Fe that the depressing influence of inadequate transportation will be felt in the state for several months.

KANSAS

HIGHEST ALLOWABLE IN HISTORY has been assigned to Kansas oil fields in July. Production of 237,400 bbl. daily during the month was authorized last week by the Corporation Commission. The new allowable is 5,000 bbl. per day higher than authorized in June.

Nominations of purchasers for July totaled 251,322 bbl. daily. The Bureau of Mines forecast of market demand for crude oil in July assigned Kansas 225,300 bbl. daily.

TEXAS

THE RATE OF CRUDE-OIL PRODUCTION last week end was 11,662 bbl. per day above the Bureau of Mines estimate of market demand for 1,371,700 bbl. Statistics released by the Railroad Commission reflected a 2,602-bbl. gain in average daily allowables for a state-wide total of 1,433,536 bbl.

Addition of 85 new wells increased the state's total of wells on proration schedules to 97,135.

Changes in allowables by districts, with gains or losses, follow: Southwest Texas, 83,060 bbl., up 301 bbl.; Gulf Coast, 264,033 bbl., up 611 bbl.; East Central Texas, 83,245 bbl., unchanged; East Texas, 361,549 bbl., unchanged; West Central Texas, 48,137 bbl., up 287 bbl.; West Texas, 247,500 bbl., up 913 bbl.; North Texas, 117,213 bbl., up 339 bbl., and Panhandle, 78,860 bbl., up 171 bbl.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Behind the Eight Ball

When the nation, only a few months ago, began its national-defense program, and enlisted the aid of American industry to supply the sinews of defense in unprecedented quantities, it found no industry more ready to answer the alarum than the oil industry. Ever since the last war, the oil business has been acutely conscious of its custody of one of the most vital necessities of both peace and war, and it was only natural that when the present emergency arrived, it found alert response on the part of the industry.

For a while all was well. It appeared that oil was indeed ready for whatever might be expected or demanded of it. Its house was in order. Its facilities were adequate. Its technical skill was advanced. Its productive capacity was straining to answer the signal for full steam ahead.

But, with all this laudable preparedness, something is developing that must be checked now, if the industry is to maintain its strong and enviable position.

And this is that the little fellow, the independent, the wildcatter, is being caught in a squeeze that threatens to crush the lifeblood out of him. He is in danger of suffocating from the sheer weight of a set of conditions that has come about through no fault of his, and over which he has no control.

Without the wildcatter, it is certain that the nation would not be able to boast of more than 20 billion barrels of reserves today. It is indisputable that the discovery of many of the most productive fields in the country would have been long delayed. It is the wildcatter, that venturesome breed that risks his all for a one-in-ten chance of a strike which will make him independent, who has contributed out of all proportion to the position the industry enjoys today. It is the wildcatter who, when he makes his long-shot strike, is certain that he can make a better one and continues his efforts, risking and all too often losing the reward of his latest success in the expectation of opening another East Texas, or Ranger, or Salem.

Today, the wildcatter, as we have said, finds himself behind the eight ball. It was not enough that a new method of taxation wreaked havoc with his traditional venturesome system. Before he had an opportunity to gather his wits about him and devise a different strategy, he was face to face with a new danger. He was threatened with being deprived of tools with which to work. A new word suddenly appeared that was fraught with grave meaning—priorities. Moreover his supply house, ordinarily so liberal with credit, so prompt with supplies, may be forced to tell him that there will be difficulty and further delay in obtaining supplies, or that no motor power is available to bring his oil to the surface.

The little fellow, sometimes working on a shoestring, and so engrossed with oil horizons that he had no time to scan the economic horizon, didn't enter the period of stringency so well fortified as the large operator. Therefore, his dilemma.

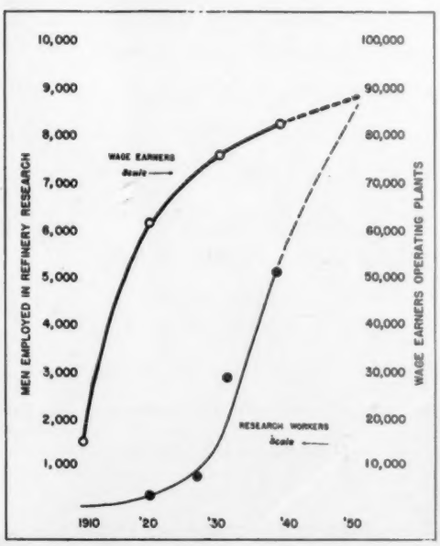
A solution must be found to this menacing problem. The industry needs the independent wildcatter; the nation needs his resourcefulness and accomplishments as never before. The obvious solution is that special consideration be given the small operator in the matter of supplies. Let him share the tools that are available. There is no acute shortage—merely unequalized distribution. Here is a problem for the joint efforts of the priorities board, the supply companies and the major oil companies to solve. Its solution is important to all concerned. The available tonnage of steel, the supply of equipment on hand, must be so equalized in its distribution that the operations of the independent wildcatter will be permitted to continue uninterrupted.

Proportion of Technical Workers Shows Rapid Rise Within Decade

By W. T. ZIEGENHAIN

PROBABLY no industry has a higher percentage of scientifically trained men on its pay rolls than the refining branch of the petroleum industry. Up-to-the-minute statistics are not available to prove this point but it is known that a few years ago the petroleum industry was exceeded only by the chemical industry as an employer of research workers in relation to the total on the pay rolls. Since then researchers have been added in unusually large numbers by both, but petroleum has undoubtedly added more than the smaller chemical industry.

Despite this favorable showing with respect to the number of men employed, the money spent annually for research represents but a small part of the oil industry's income.



The employment of researchers has been increasing faster than refinery wage earners. By 1950 nearly 10 per cent of the refinery payroll will be on research if present rates continue

Various authorities have estimated the average expenditures by the petroleum industry for research year by year and these estimates vary from $20,000,000 to $100,000,000. Offhand, one would say these figures are of little value because there is too great a difference between them. The opposite is true, however. The figures reflect the breadth of activities in the oil industry which might be considered to be research.

First, there are those who would include only those expenditures made for pure or fundamental research as carried out with test tubes in the purely research laboratory. Others would include expenditures made for perfecting a laboratory development through the pilot-plant scale. Then there are others who want to include the expenditures necessary for revising the new commercial process if and as imperfections present themselves in its early commercial application. Finally, there are many who believe petroleum research expenditures should include money spent by equipment manufacturers where items are under development for the exclusive use of the oil business.

Thus the wide range of estimates may be accounted for but when taking the lowest or the highest, the stated cost of research remains a small part of the value of the oil industry's products.

Value Refined Products

This year the value of products sold at refineries will probably exceed $3,000,000,000. If it is assumed this income will develop as the wholesale value of the industry's products and assume $60,000,000 will be spent on petroleum research it means that only 2 per cent of the value of the industry's products will be spent for research.

Refining Largest User

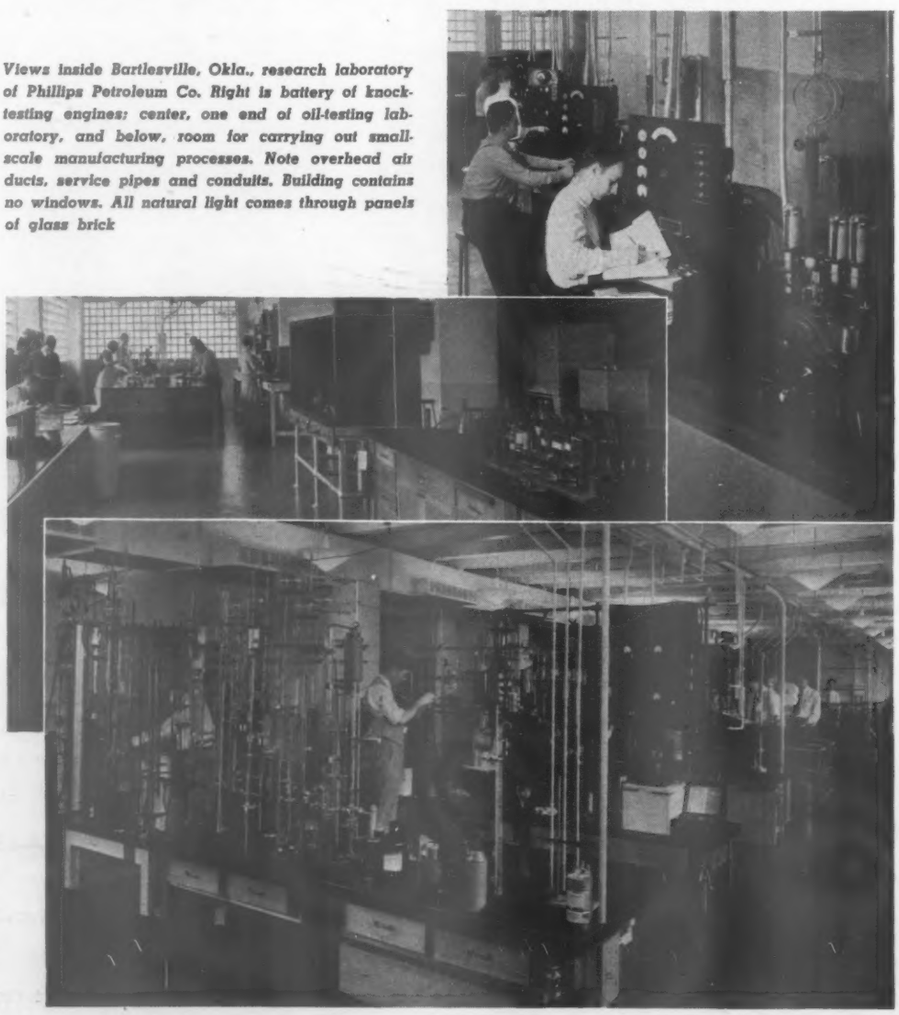
The bulk of the need for technically trained men in the petroleum industry comes from the refining division and the need has been particularly urgent in recent years because of the vast technological changes made in processing methods.

The desire on the part of the refining industry to synthesize from refinery gases motor fuels, lubricants and even diesel fuels has prompted this shift in personnel needs. The industry has taken on to a noticeable degree the functions of a chemical industry in which it utilizes the hydrogen and carbon of the crude oil as raw materials for the manufacture of basic intermediate chemicals as well as superior fuels and lubricants.

Every one interested has become acquainted with the part the refining industry is playing in supplying gases for the manufacture of alcohols, ethylene, toluene, and rubber substitutes. These recent developments have caused refiners to greatly add to their research staffs, and on top of these special problems refiners have seen the need to resort to research to solve a problem of much greater and immediate significance. It is that of supplying fuels of sufficiently high octane value to be useful in the modern high-compression motors and to do this at the least cost.

As a part of the solution of this problem, the refiner has had to determine the extent of the

(Continued on Page 26)



Views inside Bartlesville, Okla., research laboratory of Phillips Petroleum Co. Right is battery of knock-testing engines; center, one end of oil-testing laboratory, and below, room for carrying out small-scale manufacturing processes. Note overhead air ducts, service pipes and conduits. Building contains no windows. All natural light comes through panels of glass brick

Production Curb Shorn From Illinois Oil Law

SPRINGFIELD, Ill., July 1.—Laboring under a threat from Oil Coordinator Harold L. Ickes and rushed for time, the Illinois Legislature last week passed bills dealing with the oil business. These are the first laws passed since the revival of activity in the state in 1937. The measures enacted are a little more than a plugging law and lack any features by which the production in the state could be regulated.

Passage of the acts and adjournment of the legislature brings to a temporary close a long and oftentimes bitter fight between advocates of sound conservation and those who were opposed to any type of regulation. The former group included most of the major companies and a bulk of the independents while the latter consisted of some small producing companies, royalty dealers and refiners.

Failure to get a more effective law typifies the difficulty of obtaining any type of helpful legislation in Illinois. As far as state politics is concerned, the oil industry wields little influence as less than 20 counties in the southern part of the state have enough production and enough oil workers to be an important factor in an election. For the past 4 years most of the oil men interested in the legislative proceedings have spent much of their time opposing the numerous nuisance bills while at the same time trying to get something constructive accomplished.

The new measures, senate bills 694, 695, 696 and 697, replace an administration measure written mostly by Clarence T. Smith, Flora attorney, independent producer, and Gov. Dwight H. Green's representative on the Interstate Compact Commission. The administration bill would have empowered a state agency to prevent waste.

The bills passed the senate 49 to 0 and were sent to the house where attempts were made to amend them so they would regulate physical waste. The amendments defined oil and gas waste, both underground and on the surface and gave the Department of Mines and Minerals power to take steps to abolish waste. Former Gov. John Stelle threw his support behind the amendments despite the fact he has been one of the principal opponents of conservation legislation for a number of years. When the amended measures were sent back to the senate, that body refused to concur and the house was forced to abandon them.

The bills as passed give the state Department of Mines and Minerals the power to issue permits, enforce regulations for plugging dry holes, restrict the drilling of oil wells in coal-mining areas and the questionable right to regulate spacing on certain tracts. Practically all but the last-named provision were already within the province of the Mines and Minerals Department. A sum of $150,000 was appropriated for the costs of administering the act for the next 2 years.

Principal objection on the part of oil operators is that the Mines and Mineral Department, which is very friendly to the coal interests, is to administer the act.

Another senate bill, No. 494, was passed by both houses last week. This bill makes it mandatory to drill an offset well within 3 months after notice following the completion of an oil or gas well within 500 ft. of the property line of the tract covered by a lease. This bill is ready for the governor's signature.

There is no chance for any oil-regulation legislation for another 2 years as the Illinois Legislature meets only biennially. There is no special session contemplated at this time and if there was, the hopes of getting a measure through the legislature would be very slim as it would be necessary to have enough votes to tack on the emergency provision to put a law in force.

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California Stripper-Well Data Compiled for O.P.A.C.S.

LOS ANGELES, Calif., July 1.—California Stripper Well Association, representing several hundred operators of smaller oil wells in Los Angeles Basin and the San Joaquin Valley, recently prepared a report for the information of O.P.A.C.S. The report shows that 11,555 wells in California each have a potential producing capacity of less than 25 bbl. per day. Of this group, 4,021 are capable of producing 4 bbl. daily or under; 3,076 are able to produce between 5 and 9 bbl. daily; 2,100 have a capacity of from 10 to 14 bbl. daily; 1,338 wells are capable of producing from 15 to 19 bbl. daily and 1,021 wells can produce between 20 and 24 bbl. per day. Of the total of 18,575 wells in the state, the stripper wells numbering 11,555 constitute 62 per cent.

Crude-oil reserves behind these stripper wells are estimated at 244,000,000 bbl. of recoverable oil which the association believes is of extreme significance in the light of national-defense needs. The report shows that the crude prices have not kept pace with the increasing costs as shown by the commodity index.

California Oil Price-Cut Order Delayed Until July 15

WASHINGTON, D. C., July 1.—Action by the Office of Price Administration and Civilian Supply reducing California crude-oil and gasoline prices to the levels prevailing May 22 has been deferred until July 15. O.P.A.C.S. first ordered the price reduction effective June 10, postponed the effective date until July 1 when California producers protested and granted another 15-day extension Monday at request of the California Oil Producers Sales Agency.

The O.P.A.C.S. staff is now studying data so far submitted on the cost of producing oil in California which, operators on the Pacific Coast assert, more than justifies the May 13 advance in crude-oil and product prices. The California agency is surveying the cost data but was unable to complete compilation of returns from small producers before the July 1 deadline.

Bill Easing Tanker-Load Limits Sent to White House

WASHINGTON, D. C., July 1.—One of the first bills introduced in Congress for the specific purpose of easing the petroleum transportation shortage from the Gulf Coast to Atlantic seaboard points was sent to the White House Monday.

The bill, authorizing an increase in the load line of tankers and other vessels engaged in domestic coastwise traffic, passed the House 2 weeks ago and Monday was given Senate approval.

Estimates were made by Secretary Ickes, the petroleum coordinator, that the bill permitting heavier loading of vessels will increase the coastwise tanker fleet's transportation capacity approximately 3 per cent.

J. F. Nagle and Clara Gartman Form Midland Oil & Fuel Co.

J. F. Nagle and Clara Gartman have resigned their connections with the Skelly Oil Co. and have organized the Midland Oil & Fuel Co. offering a specialized marketing service for all petroleum products. Offices of the company are in the Philtower Building, Tulsa.

Mr. Nagle recently has been located in the Kansas City, Mo., offices of the Skelly company in the capacity of assistant sales manager. Previously he was executive assistant with headquarters in Tulsa. His experience includes all phases of the company's sales activities.

Miss Gartman with more than 20 years experience with the Skelly company is widely known in oil-marketing circles. She was in charge of the natural-gasoline sales for the company for many years and was also connected with the company's refinery sales with headquarters in Tulsa.

ATLANTIC RUSHES NEW DELAWARE RIVER TERMINAL

A new $1,500,000 terminal at Fort Mifflin in South Philadelphia on the Delaware River is being rushed to completion by Atlantic Refining Co. The terminal will be used to speed up the movement of crude-petroleum shipments brought by tanker from Texas Gulf ports to the company's main refinery at Point Breeze. The terminal will be connected to the refinery by pipe lines resulting in a substantial saving in time in tanker movements to and from the plant. According to present plans, it should be completed in August. The picture shows the new terminal building, which will house the headquarters of the company's marine department. In addition, facilities will be provided for storing provisions for the tankers which will use the terminal, for repairs and for the accommodation of officers and seamen.

April Brings U. S. Foreign Oil-Trade Balance Into Normal Position

By J. P. O'DONNELL

NEW YORK, July 1.—The United States' foreign oil-trade balance returned to a normal position in April when exports exceeded imports as the former rose and the latter declined. Preliminary data from Bureau of Foreign and Domestic Commerce reports for April show that exports, including reexports, totaled 7,507,241 bbl. and imports 6,215,592 bbl. In March exports were less than imports in direct contrast to the country's normal foreign trade balance in petroleum.

April's exports compared with 7,144,376 bbl. in March, an increase of 362,875 bbl. The increase was accounted for by a gain in crude oil of 861,000 bbl. though exports of lubricating oils also were up 35,000 bbl. Partly offsetting the gains were declines of 169,000 bbl. in gas oil and distillate fuel oil and 300,000 bbl. in residual fuel oil. Details on April exports are given in Table 1. This report was formerly issued by countries of destination but has been curtailed to show totals only since information contained in the previous form is regarded as being of military value.

TABLE 1—UNITED STATES EXPORTS OF PETROLEUM

	March	April
Crude oil	1,988,455	2,502,729
Reexports	.....	347,172
Total crude	1,988,455	2,849,901
Motor fuel:		
Natural	.....	53,671
Antiknock comp.	.....	4,556
High grade	.....	54,203
Other	.....	1,090,586
Naphtha	.....	17,430
Benzol	.....	1,539
Reexports	306,024	759,995
Total motor fuel	2,044,772	1,981,980
Kerosene	164,630	158,292
Gas oil, distillate	1,028,472	788,309
Reexports	8,802	80,000
Total gas oil, etc	1,037,274	868,309
Residual fuel oil	1,170,267	911,615
Reexports	36,293	.....
Total residual fuel	1,206,560	911,615
Lubricating oils:		
Red and pale	.....	307,552
Black	.....	13,459
Bright	.....	69,814
Steam refined	.....	42,812
Insulating oils	.....	4,385
In small package	.....	3,226
Not elsewhere specified	.....	295,896
Total lube oils	702,685	737,144
Total all oils	7,144,376	7,507,241

TABLE 2—IMPORTS FOR DOMESTIC CONSUMPTION

	March	April
Residual fuel oil:		
Mexico	228,306	69,032
Netherlands West Indies	1,875,490	744,613
Trinidad and Tobago	61,255	.....
Venezuela	1,268,923	855,708
Total	3,433,974	1,669,353
Unfinished oils:		
Canada	240	192
Crude oil:		
Colombia	89,854	71,028
Mexico	594,551	925,829
Venezuela	3,131,502	3,135,243
Total	3,815,907	4,132,169
Topped crude:		
Netherlands West Indies	315,000	225,438
Gas, oil, distillates:		
Mexico	158,504	188,440
Venezuela	97,520	.....
Total	256,024	188,440
Total all oils	7,821,145	6,215,592

April's imports, details of which are shown in Table 2, compared with 7,821,145 bbl. in March, a decline of 1,605,500 bbl. The decline was accounted for by the huge drop in imports of residual fuel oil. Imports of this product from Mexico dropped 160,000 bbl.; from the Netherlands West Indies, 1,100,000 bbl.; from Trinidad and Tobago, 61,000 bbl., and from Venezuela, 400,000 bbl., a total drop of approximately 1,800,000 bbl. Imports of gas oil and distillate fuel oil also declined but crude-oil imports rose about 300,000 bbl.

The report on imports under the Venezuelan trade agreement (Table 3) shows that "other countries," principally Mexico, have exceeded their quota for the year already. However, Venezuela and the Netherlands West Indies, which between them have been allotted 91.7 per cent of total allowed under the agreement, have filled but 34.5 and 37.9 per cent of their quotas in the first 4 months of this year. The agreement provides that most favored nations may ship to this country up to 5 per cent of the preceding year's domestic refinery runs at half the regular duty or 10.5 cents per barrel.

This table shows that imports from these most favored nations have been substantially higher so far this year than in 1940. In the first 4 months of 1941 such imports totaled 25,548,122 bbl. against 19,935,621 bbl. in the corresponding period of 1940, an increase of 5,600,000 bbl. Venezuela, up 6,150,000 bbl., showed the largest gain though our imports from Mexico were up close to 1,000,000 bbl. and those from Colombia, 135,000 bbl. The one offsetting factor was the decline in imports from the Netherlands West Indies, which dropped more than 1,600,000 bbl.

The aggregate of the imports from these countries, 25,548,122 bbl., is equivalent to 39.3 per cent of their quota of 64,700,000 bbl. However, the "other nations," because of the huge excess in Mexico, went above their combined quota in April so that the actual percentage of the quota filled is less than that indicated.

TABLE 3—IMPORTS UNDER VENEZUELA TRADE AGREEMENT

		April	First 4 months	1941 quota	Per cent filled
Venezuela	1941	3,990,951	15,731,437	45,548,800	34.5
	1940	2,778,550	9,578,528	.....	...
Netherlands West Indies	1941	970,051	5,224,262	13,781,100	37.9
	1940	1,392,363	6,847,657	.....	...
Colombia	1941	71,028	317,071	2,070,400	15.3
	1940	.....	182,278	.....	...
Mexico	1941	1,183,301	4,211,188		
	1940	1,023,519	3,268,593		
Trinidad and Tobago	1941	..	61,255	3,299,700	129.6
	1940	58,560	58,565		
Miscellaneous	1941	9	2,509		
	1940	.....	.....		
Total	1941	6,215,340	25,548,122	64,700,000	39.3
	1940	5,252,993	19,935,621	.....	...

California Operators Increase Natural-Gasoline Production

LOS ANGELES, Calif.—Production of natural gasoline in California for April was increased to 49,163,854 gal., compared to 46,746,849 gal. in May.

Stocks of liquefied petroleum gases declined to 1,705,343 gal. at the start of May 1, a reduction of 326,495 gal. from the April 1 stock total. Production of liquefied petroleum gases in April totaled 49,010,177 gal., against 47,021,320 gal. in the preceding month.

There were 88 natural-gasoline plants in operation during May. They handled 30,647,365,000 cu. ft. of gas compared with throughput of 30,174,921,000 cu. ft. in April by 87 plants. Details of May operations are shown in the following tables:

CALIFORNIA NATURAL-GASOLINE PLANT OPERATIONS, MAY 1941

	Gas treated (M.c.f.)	Natural gasoline produced (gal.)
San Joaquin Valley:		
Belridge	3,969,873	1,971,626
Elk Hills	19,512	48,760
Kettleman Hills	7,626,115	9,609,039
Midway-Sunset	878,981	1,888,172
Mountain View	142,118	260,936
Miscellaneous	2,662,669	2,217,277
Coastal district:		
Elwood	368,532	413,135
Santa Maria	220,994	525,228
Ventura Avenue	3,148,997	4,783,100
Miscellaneous	765,435	758,644
Los Angeles Basin:		
Brea-Olinda-Coyote	426,409	1,436,322
Dominguez	1,391,252	2,056,884
Huntington Beach	788,205	2,685,140
Long Beach	2,111,127	7,819,746
Montebello	1,495,118	1,985,507
Richfield	166,918	564,458
Rosecrans	1,190,803	1,463,426
Santa Fe Springs	1,254,917	4,897,530
Torrance	191,855	657,836
Miscellaneous	1,827,535	3,121,088
Total (all fields)	30,647,365	49,163,854

Distribution

	Gallons	Gallons
Stocks beginning of month	1,705,343	
Production during month	49,163,854	
Delivered to refineries		49,010,177
Delivered to jobbers, brokers, or blenders		.....
Blended at plants for production of motor fuel		15,369
Losses		64,890
Stocks end of month		1,778,761
Total	50,869,197	50,869,197

Liquefied pet. gas prod. 6,135,513 gal. = 146,084 bbl.
Motor fuel production 15,369 gal. = 366 bbl.

Increase Shown in Eastern River Shipments of Products

PITTSBURGH, Pa.—Shipments of petroleum products on the three rivers here showed an increase in May over April. Figures for May on the rivers and the increase over the previous month were: Allegheny River, 4,380,000 gal., an increase of 900,000 gal.; Monongahela River, 12,360,000 gal., an increase of 3,210,000 gal.; Ohio River, 26,400,000 gal., an increase of 1,620,000 gal.

Watching WASHINGTON

By HENRY D. RALPH

Petroleum coordination program slowly unfolding . . . Look for decision soon on pipe-line questions . . . Ickes promises names of committee personnel this week . . . Consent decree expected

WASHINGTON, D. C., June 30.—A detailed pattern for coordination of the petroleum industry during the defense emergency is slow in unfolding, but a series of developments should come to a head very shortly.

Due to be announced soon are appointments to the staff of the office of Petroleum Coordinator for National Defense, regional industry committees, and a plan for constructing pipe lines to the East Coast. Settlement of pending antitrust cases will be slower, but negotiations are diligently proceeding. A committee representing defendants in the antitrust suit held its most recent meeting a few days ago. A final report from the defendants' legal committee will be completed within 2 or 3 weeks. There is no indication that settlement of the suit will be speeded up solely from a defense standpoint.

Pipe-Line Meeting

Definite need for a coordinator to make decisions—as an umpire if not as a dictator—was shown at a meeting last Thursday to discuss proposals to construct new pipe lines and tankers to relieve the petroleum shortage on the Atlantic Coast. Approximately 35 representatives of the industry were closeted all day with Deputy Coordinator R. K. Davies, and apparently the only thing they agreed on was that they could not agree among themselves and Coordinator Ickes must make the decision.

There was a general feeling that pipe-line service to the East Coast should be provided because of the emergency conditions, and that new lines should be built by the industry as common carriers. But there were side differences of opinion as to possible routes, length of time involved in construction, type and size of lines, costs and method of financing, engineering considerations, source of supply of oil, and operating locations.

As a result, Mr. Davies is compiling all the suggestions received, together with others sent in by mail and telegraph, in a report to Coordinator Ickes. Within a few days it is expected that the coordinator will make a specific recommendation to the industry. The decision, Mr. Davies said, "will be based on providing an equitable solution which most quickly will relieve the present East Coast situation."

The meeting also discussed at length the question of additional tanker construction. It was the view of some present that additional tankers should be built simultaneously with construction of a pipe line, and others felt that additional tanker construction should be put under way in any event.

Meanwhile the coordinator took two steps to increase the capacity of existing transportation facilities. In a telegram to oil companies operating in the East, he asked greater use of railroad tank cars. He also wired operators of tanker fleets asking them to increase their carrying capacity in every way possible. To the oil companies he said:

"In view of impending serious shortage of petroleum products on Atlantic seaboard I direct to your attention there is apparent tank-car capacity not now utilized which might be immediately employed to relieve situation. In so doing I fully appreciate that tank-car movement will in many ways be more expensive than movement by other means. However, I am sure you will consider some sacrifice justified in the circumstances and you may find opportunities for minimizing cost additions through railroads' cooperation in matter of special rates. Suggest your company give immediate attention to possibilities of this greater use of tank cars and proceed as rapidly as possible with such plans as you are able to develop in view of cumulative effect of lost time. Would appreciate knowing within the week specifically what you consider possible of immediate accomplishment by your company."

To tank-fleet executives he suggested that special attention be given to possibilities of better planning and coordination of transportation requirements, adjusting schedules to minimize delays, provision of improved port facilities, improved loading and unloading operations, and to the various operations in port. He asked the tanker operators to report on this so that he may better gage the tanker situation and pass ideas of value on to others.

At the same time the Maritime Commission announced that it has taken over two laid-up Danish tankers, which are to be operated in trades in the Western Hemisphere or as otherwise directed by the commission. The Caroline Maersk, now at Jacksonville, Fla., goes to the Standard Oil Co. of New Jersey or an affiliate company, and the Emma Maersk, now at Boston, goes to the Pennsylvania Shipping Co.

Will Announce Committee Selection

Delay in announcing industry committees and staff officials was caused by requests from the industry for more time in which to submit nominations for committee personnel. Coordinator Ickes said that submission of nominations will be continued until July 2, and "promptly after that date we shall make the selections and get the committees to work on the problems facing us."

The first step affecting commercial conditions within the oil industry was taken by Coordinator Ickes in a telegram to 21 major oil companies operating on the Atlantic seaboard asking them to "freeze" existing relationships with commercial outlets until a comprehensive plan can be worked out at a conference to be called some time soon. The telegram said:

"As the proration of petroleum products by supplying companies to commercial consumers, distributors and retailers may inadvertently cause maladjustments of wide variety and in some cases result in serious losses by those who can least afford them, it is recommended that all supplying companies in the Atlantic Coast area refrain from establishing policies that change existing supply relationships until a comprehensive plan can be worked out between them and this office. In pursuance of this recommendation, you are requested to supply such data on existing supply and account relationships as you consider necessary for a forthcoming conference on this subject."

Deputy Davies explained that the action was taken to prevent repetition of instances in which some of the supplying companies, faced with an impending shortage, have declined to fill the needs of some of their customers. The forthcoming conference will attempt to formulate an equitable method for the proration of supplies by wholesalers and distributors.

Action Lifts Eyebrows

This action caused some surprise at the Department of Justice, where it had been assumed that all actions affecting commercial relationships would be taken only after consultation with that department according to the procedure outlined in an exchange of letters between Secretary Ickes and Francis Biddle, acting attorney general.

This procedure appeared to contemplate an early settlement of pending antitrust suits and close cooperation between the coordinator and the Department of Justice, but further clarification is awaited by all concerned. Briefly, it is that industry committees will advise but not decide nor enforce, that important actions by the coordinator be sent to the Department of Justice before being announced, and that all decisions and orders be published in the federal register. This last step was Mr. Ickes' idea and goes farther than the otherwise parallel procedure agreed upon between the Department of Justice and the Office of Production Management. It was taken to make sure that the texts of all instructions and recommendations for action are public documents and to avoid a repetition of conditions leading up to the Madison indictments.

Meanwhile the antitrust division is continuing its conferences with the negotiating committee for defendants in the big A.P.I. or "Mother Hubbard" suit and the three related Elkins Act pipeline suits. These negotiations have now consumed a total of 17 weeks of conferences, and an acceptable draft of a consent decree has not yet been written.

One curious result of the appointment of an oil coordinator is that both sides in the negotiations

(Continued on Page 22)

Illinois Gross-Production Tax Will Raise $5,000,000

SPRINGFIELD, Ill., July 1.—Illinois' new gross-production-tax law which, based on current production and price, will take approximately $5,000,000 annually out of the pockets of oil producers and put it in the state coffers became effective on July 1. The measure was passed by the legislature in May as part of the program which was originally scheduled to give the state an effective conservation measure.

The law provides for the payment of 3 per cent tax on all oil produced and used, makes it mandatory for the receivers of the oil to keep adequate records in the state, requires a bond from the receivers of the oil of twice the amount of tax to be paid each month, requires a $1,000 surety bond to be posted by July 15, 1941, by all producers of oil, and allows 2 per cent of the total tax collected by the receivers of the oil to be deducted for administrative costs.

Terminology used in the act is new to the producing departments of the oil business and operators are not quite clear on the law despite a conference with the commissioner of finance at Springfield, Ill., last week. For the most part the law resembles a gasoline tax law more than it does a gross production tax bill. The term receiver is taken to mean the purchaser of the oil and not the pipe line, or transporting medium. The receiver of the oil is supposed to deduct the tax from the producer but in case he doesn't, the producer must pay the state. Definition of producer includes the owners of royalty interests.

The tax is based on all the oil produced, including the royalty oil. The producer must pay for all the oil and gas used, lost or wasted; enforcement of this provision will undoubtedly be difficult. While there is no tax on dry gas, wet gas used or wasted might conceivably come under the act as the value of oil and liquefied hydrocarbons is to be determined at the well head. Products of natural-gasoline plants operating in the state will be taxed but the value of such products is to be determined at the well.

A purchasing company which collects the tax, or a producing company which pays its tax direct, cannot deduct the 2 per cent allowed for administration unless they can sustain the claim by proof of the expenses incurred. If the costs to a company run over the 2 per cent it cannot collect the additional amount and in case it runs under 2 per cent it can only claim the amount of the actual administration costs.

Requirement that the receiver of the oil keep adequate records in the state on the oil runs and the operations of the company may be complicating for many now purchasing Illinois oil. A penalty is attached for not meeting this requirement.

Posting of surety bonds by oil producers may also cause considerable confusion as under the law the royalty owners may be considered to be producers.

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Watching Washington

(Continued from Page 21)

have become less ready to compromise. Both the department and the defendants appear to be more insistent in their demands, and a quick and easy settlement now seems more difficult than before. Otherwise there is no change in the negotiating procedure, and to date the coordinator's office has not entered the picture in spite of the attorney general's letter to Secretary Ickes on June 3 in which he said:

"I believe that the most expeditious manner of relating these negotiations to your program is to acquaint you from time to time with the general course of negotiations and to obtain your views on any major issue which may arise in connection with specific proposals that may be made by the industry. This should be done before the department has taken any final position in respect to these matters. I assure you that we shall give careful consideration to your views regarding either the economic aspect of these problems or their effect upon national defense."

The negotiators are not revealing any details of their progress, but it is believed that there is a prospect of working out a consent decree as to production and marketing which will be relatively satisfactory to all concerned. The biggest obstacle appears to be pipe-line ownership, the subject of the three Elkins Act suits. There is a bare possibility that this part of the case may be dropped or postponed indefinitely because of the emergency demands for new pipe-line construction by the major companies.

If and when the Department of Justice evolves a consent decree, the presumption is that it will be presented to the petroleum coordinator for approval, and it is further presumed he will strike out sections which he believes might hamper the defense program before the decree is presented to the court. This possibility appears to have stiffened the resistance of both parties to the negotiations, with the result that creation of the coordinator's office has delayed, rather than expedited, the negotiations at this stage.

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DEATHS

HERMAN DAVIS, 54, independent oil operator, died at a Tulsa hospital, June 30, from high blood pressure. Mr. Davis had lived in Tulsa but 6 months, moving from Oklahoma City. He was a Hungarian immigrant, coming to this country in 1907. He leaves his widow and two sons.

WALTER G. WILEY, 46, district pipe-line foreman for Continental Oil Co., was killed in an automobile accident southwest of Newton, Kans., on the evening of June 18.

JAMES T. MIDKIFF, 63, foreman of the central warehouse of Gulf Oil Corp., died last week at Seminole, Okla. He was for many years foreman of the Gulf Tulsa warehouse before it was closed and moved to Seminole. He leaves a widow and three children.

HIRAM ARTHUR COATS, 71, retired refinery worker, died last Thursday night at his home in Tulsa, following an illness of 2 years. Mr. Coats came to Tulsa in 1916 from Port Arthur, Tex., and had worked for both the Mid-Continent Petroleum Corp. and the Texas Co. The widow, three sons and three daughters survive.

CHARLES W. ROUSH, 69, died June 25 at his home in Jenks, Okla., following a paralytic stroke. Mr. Roush came to Oklahoma in 1908. He was employed as an oil-field gager by Prairie Pipe Line Co., and as engineer for Texas and Empire Pipe Line Co. He retired 3 months ago. Survivors include the widow and a daughter.

CHARLES LAFAYETTE SHERMAN, 56, oil-field drilling contractor, died at his home in Tulsa, June 24, of a heart ailment, following a 5-year illness. He was a pioneer drilling contractor, having drilled some of the first wells in the Nowata pool and in Osage County, Oklahoma. The widow, a son and a daughter survive.

WILLIAM J. ANICKER, 61, independent oil man and resident of Tulsa for the past 4 years, died at his home June 25. Mr. Anicker was in the oil business in Muskogee, Okla., before he retired and moved to Tulsa. He leaves his widow and a son.

GEORGE E. BLACK, 64, widely known in Los Angeles and in Oklahoma as an oil man, banker and attorney, died June 23 at his suburban Westwood home, near Los Angeles. Mr. Black had lived in the vicinity of Los Angeles for 18 years and retired some time ago. Before going to California he had lived in Tulsa. He was a founder of the Mid-Continent Oil and Gas Association and formerly was president of the Hub Oil Co.

BAKER HOSKINS, 42, scout for Shell Oil Co., Inc., with headquarters at Lake Charles, La., died June 22 in a Lake Charles hospital, following a brief illness. He was interred at Waco, Tex. At the time of his death he was treasurer of the South Louisiana Geological Society.

JOHN FULTON SMITH, 44, a driller for Union Producing Co., was killed last week in an accident in the Tinsley field, Mississippi. He was struck by a guard off a crown block which was dislodged by the rig's traveling block and fell 100 ft. His widow and two children survive.

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THE MARKETS*

CRUDE OIL: Demand for crude oil in the Mid-Continent district is at the highest level in recent years, making an especially firm market in that producing section. Reductions in allowable production in Texas, Louisiana, and New Mexico, the states where retrenchment seemed prudent to cope with the transportation situation to the East Coast, were not at all popular with producers and scarcely less so with some of the purchasers. Louisiana is scheduled to reconsider the crude demand in that state next week and modification of the original July limits may result.

REFINERY PRODUCTS: Gasoline prices moved into higher ground in all sections of the country east of the Rocky Mountains. Refiners in the Mid-Continent, Gulf Coast, and Middle West advanced tank-car prices ⅛ to ¼ cent per gallon but were still lagging far behind the demand. Gulf Coast suppliers sold several cargoes of distillate fuel and two boat loads of residuals.

TANK WAGON AND POSTED DEALER: Subnormal prices in the Chicago area were advanced ½ cent per gallon. There were no changes elsewhere of any significance. A revision of the Arizona fuel tax enabled suppliers of kerosene in that state to lower tank-wagon quotations 5 cents per gallon.

FINANCIAL: Losses of the preceding week were more than offset by more active trading in oil securities. Average of 30 representative stocks for the week ended June 28: High, 25.53; low, 24.73; close, 25.08. Week ended June 21: High, 25.31; low, 24.67; close, 24.88.

*Detailed information in the Market Section.

International

United Kingdom . .

Restrictions on Use of All Fuel Oils Tightened

CONSUMPTION of liquid fuel without specific sanction of the secretary of petroleum has been prohibited in the United Kingdom.

For this purpose, says an order issued by the Petroleum Department, "liquid fuel" means (*a*) gas oil, marine gas oil, diesel oil, marine diesel oil, fuel oil, heavy fuel oil, marine fuel oil and any similar product of petroleum or shale, and (*b*) any crude or dehydrated coal tar, carburetted water gas tar, producer gas tar, pitch, creosote, blends of creosote and pitch, and any of the oils known as coal-tar oils.

The Petroleum Department, in conjunction with the Petroleum Board, is reviewing the needs and circumstances of each consumer burning petroleum oils, and notice will be given in suitable cases to consumers of any change in the type and quantity of liquid fuel which they will in the future be permitted to use. Before tar oils can be used satisfactorily some alteration in plant may be necessary and the board, which is marketing the oils, is ready to make available the services of its technical experts to advise on the details of conversion. To enable conversions to be made as quickly as possible the Petroleum Board on behalf of the secretary of petroleum will invite as circumstances require, users of liquid fuel to furnish information to them about the purpose for which liquid fuel is used, including quantity used and nature of plant.

Syria . .

Believe Vichy Ready to Abandon Syria to Allies

REPORTS that the Vichy government is ready to abandon Syria to British and Free French forces indicates that both legs of the Iraq pipe line will again be in Allied hands. The northern leg of the line, from Haditha, Iraq, to Tripoli, Mediterranean seaport of Syria, had been closed since the fall of France in the summer of 1940. This is the shorter of the two legs, having a length of 382 miles against 470 miles for the leg running from Haditha to Haifa in Palestine.

While this will make it possible to double the volume of stabilized crude that can be delivered from Kirkuk to the Mediterranean, there is little likelihood that it will be used since deliveries to Tripoli were normally exported and only a small refinery is located there. The northern leg has four pumping stations, one near Alqain in Iraq, and the others in Syria at Abu Kamal, Araq and Palmyra. British mechanized forces operating out of Iraq were reported to have occupied the last-named station last week.

Abandonment of Syria by the Vichy armies probably ends the threat of further damage to oil properties in that country. So far as news reports are concerned, damage was limited to the bombing of storage facilities of the Shell Oil Co. of Syria, Ltd., at Beirut. While this company is a subsidiary of the Royal Dutch-Shell, there is no equity relationship between it and Shell Union Oil Corp., which is limited to North America.

Colombia . .

New Structural Feature To Be Tested by Drilling

COLOMBIAN PETROLEUM CO. will test a new structure between those on which the 1 Tres Bocas and the 1 South Sardinata are located and is now building a road to the location. The new test will be the 1 North Sardinata. The location is approximately 4 miles almost due north of the 1 South Sardinata and 8½ miles south-southeast of the 1 Tres Bocas.

No. 1 Tres Bocas is 8 miles south-southeast of 1 Socuavo. The depth of this test is 8,901 ft. A fishing job is delayed, awaiting tools. A road to the location for the 2 Socuavo has been cleared and is now being graded. Preparations are being made to abandon the 2 Tres Bocas with drilling held up at 1,987 ft., due to a fishing job. The rig will be skidded to a new location.

The 1 South Sardinata is drilling at 3,155 ft. in a sand and shale formation.

Socony-Vacuum Oil Co. 1 Cimitarra in the Magdalena Valley has been drilled to 1,494 ft. Preparations are being made to set casing at that depth.

HEADS ANGLO-IRANIAN . . .

SIR WILLIAM FRASER of London last week was elected chairman of the Anglo-Iranian Oil Co., Ltd., succeeding Rt. Hon. Lord Cadman, G.C.M.G., who died a few weeks ago. The new chairman has been deputy head of the board for several years and a high executive in subsidiary and affiliated company management

Venezuela . .

Standard Companies Boost April Crude Production

COMBINED production of the Standard Oil Co. of Venezuela and Lago Petroleum Corp. increased 40,697 bbl. to 292,264 bbl. in the month of April. The combined exports of the two companies declined, however, to 7,917,809 bbl., a decrease of 157,622 bbl. Standard Oil Co. of Venezuela exports in April totaled 2,806,611 bbl. and those of Lago Petroleum Corp., 5,111,198 bbl.

A summary of the daily average production of these companies in April follows:

Area—	S.O.V.	Lago	Total
Lake Maracaibo	7,843	188,669	196,512
Other western fields	4,569		4,569
Eastern Venezuela	84,781	6,402	91,183
April total	97,193	195,071	292,264
March total	86,879	164,688	251,567
Change	10,314	30,383	40,697

A record of well completions during April in which these companies are interested follows:

Area—	No.	Average initial (b/d)	Total depth (ft.)
Lake Maracaibo	1	1,300	5,521
Jusepin	1	720	4,797
San Joaquin	1	862	6,410
Santa Ana	1	1,326	8,988
Oficina	1	819	5,827
Total	5	5,027	31,543

THE Texas Co. (Venezuela), Ltd., has completed the derrick for the 2 Rincon Largo. The 1 Rincon Largo is still reported testing at a depth of 9,631 ft.

Socony-Vacuum Oil Co. is coring below 9,036 ft. in the 3 Guario and is drilling below 6,378 ft. in the 4 Guario, both in the San Joaquin area. This company's 1 Anaco in the Roble area, one of the deepest wells drilled in Venezuela, is coring shale below 10,995 ft.

Socony-Vacuum's newest operation, the 1 Hamaca in the State of Anzoategui, is drilling sand and shale below 3,402 ft.

Argentina . .

Ultramar Proceeding on Three Drilling Operations

THE three tests of Ultramar S.A.P.A. are making additional progress. The 2 Saladillo is drilling in a very hard sand at 4,405 ft.; 1 Cerro Lumbreras, drilled to 1,056 ft., is straightening hole; and the 1 Piedra Clavada is drilling at 3,834 ft.

Rumania . .

Report Russian Parachute Troops Descend on Ploesti

ACCORDING to unconfirmed reports from the German-Russian war front, 2,000 Soviet parachute troops descended on the Ploesti fields of Rumania last week. While such troops would undoubtedly be equipped to wreak as much destruction as possible, there were no authenticated reports that they succeeded or failed in the attempt.

Motor-Fuel Demand in April Surged Upward

UPWARD surge of motor-fuel demand continued to feature the statistical position of the petroleum industry in the April and 4-month summary released last week by the U. S. Bureau of Mines. Domestic demand for motor fuel increased 12.4 per cent in the first 4 months this year compared to 1940. The increase in domestic demand for motor fuel the first 3 months was 11.2 per cent.

"Speculative buying," the bureau said in recognizing the increase of nearly 16 per cent in domestic demand for gasoline in April compared to a year ago, "was eclipsed in importance by the rise in industrial activity under the defense program."

The position of aviation gasoline is included in the April summary for the first time because comparative figures for a year ago are now available. The data show that domestic demand for this premium motor fuel has increased 18.5 per cent. It is significant that domestic demand in April increased more than 21 per cent over a year ago, showing that the defense program is just now developing to a point where aviation-gasoline demand is reaching the extent previously visualized.

Domestic demand for residual fuel oil increased 9.2 per cent through the first 4 months but the gain was less impressive in other fuels.

Demand for all oils, including exports and domestic, increased 4.9 per cent in the first 4 months compared to 3.3 per cent for the first quarter.

UNITED STATES SUPPLY AND DEMAND

Four months, 1941 and 1940. (All figures in thousands of barrels)

Crude Oil

4 Months—	Total supply	Total demand	Excess demand	Excess Pct.	Domestic production	Imports	Indicated domestic demand‡	Exports	Stocks refinable crude Apr. 30
1941	449,151	447,322	*1,829	*0.4	435,335	13,816	439,802	7,520	266,012
Daily average	3,743	3,728	.....	...	3,628	115	3,665	63	.....
1940	468,285	448,943	*19,342	*4.3	457,928	10,357	433,106	15,837	258,066
Daily average	3,870	3,710	.....	...	3,785	86	3,579	131	.....
Increase, 1941	†19,134	†1,621	.....	...	†22,593	3,459	6,696	†8,317	7,946
	†4.1%	†0.4%	.....	...	†4.9%	33.4%	1.5%	†52.5%	3.1%

Refinery Products—Motor Fuel

4 Months—	Total supply	Total demand	Excess demand	Excess Pct.	Domestic production	Imports	Domestic demand	Exports	Stocks Apr. 30
1941	209,440	199,007	*10,433	*5.2	208,093	1,347	191,265	7,742	94,080
Daily average	1,745	1,658	.....	..	1,734	11	1,594	65	.....
1940	199,739	178,734	*21,005	*11.8	199,694	45	170,217	8,517	102,727
Daily average	1,651	1,477	.....	...	1,650	.....	1,407	70	.....
Increase, 1941	9,701	20,273	.....	...	8,399	1,302	21,048	†775	†8,647
	4.9%	11.3%	.....	..	4.2%	.....	12.4%	†9.1%	†8.4%

Aviation Gasoline

1941	5,885	3,760	*2,125	*56.5	5,885	.....	2,405	1,355	7,347
1940	4,762	3,232	*1,530	*47.3	4,762	.....	2,029	1,203	5,178
Increase, 1941	1,123	528	.....	...	1,123	.....	376	152	2,169
	23.6%	16.3%	.....	...	23.6%	.....	18.5%	12.6%	41.9%

Kerosene

1941	24,650	27,142	2,492	9.2	24,650	.....	26,623	519	7,063
1940	24,147	27,372	3,225	11.8	24,147	.....	25,799	1,573	4,351
Increase, 1941	503	†230	.....	...	503	.....	824	†1,054	2,712
	2.1%	†0.1%	.....	...	2.1%	.....	3.2%	†67.0%	62.3%

Distillate Fuel Oils

1941	63,534	75,484	11,950	15.8	61,829	1,705	71,105	4,379	31,793
1940	65,642	75,188	9,546	12.7	64,416	1,226	68,121	7,067	25,092
Increase, 1941	†2,108	296	.....	...	†2,587	479	2,984	†2,688	6,701
	†3.2%	0.4%	.....	...	†4.0%	39.1%	4.4%	†38.0%	26.7%

Residual Fuel Oils

1941	121,267	133,003	11,736	8.8	109,105	12,162	128,442	4,561	80,379
1940	115,988	122,043	6,055	5.0	105,004	10,984	117,671	4,372	88,932
Increase, 1941	5,279	10,960	.....	...	4,101	1,178	10,771	189	†8,553
	4.6%	9.0%	.....	...	3.9%	10.7%	9.2%	4.3%	†9.6%

Lubricating Oils

1941	11,491	11,896	405	3.4	11,491	.....	9,140	2,756	8,363
1940	13,031	12,108	*923	*7.6	13,031	.....	7,597	4,511	8,065
Increase, 1941	†1,540	†212	.....	...	†1,540	.....	1,543	†1,755	298
	†11.8%	1.8%	.....	...	†11.8%	.....	20.3%	†38.9%	3.7%

Petroleum Wax (Thousands of pounds)

1941	196,125	205,301	9,176	4.5	191,520	4,605	155,423	49,878	116,096
1940	214,850	195,302	*19,548	*10.0	187,880	26,970	101,095	94,207	96,910
Increase, 1941	†18,725	9,999	.....	...	3,640	†22,365	54,328	†44,329	19,186
	†8.7%	5.1%	.....	...	1.9%	†82.9%	53.7%	†47.1%	19.8%

*Excess supply. †Decrease. ‡Crude only. §Includes finished and unfinished refinery gasoline and natural gasoline. Note: Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products based on refinery shipments. ‖Does not include 11,802,000 bbl. of heavy oils in California. Comparable figures for April 30, 1940, 13,516,000.

Crude Oil Run to Stills and Total All Oils

4 Months—	Total imports§	Total exports§	Total crude to stills	Per cent yield gasoline‡	Natural gasoline production	Total supply all oils*	Total demand all oils*	Stocks all oils Apr. 30*
1941	31,330	28,555	433,293	43.4	19,345	487,197	494,394	556,757
Daily average	261	238	3,611	...	161	4,060	4,120	
1940	25,538	43,496	425,354	42.8	17,353	501,787	471,124	555,433
Daily average	211	359	3,515	...	143	4,147	3,894	..
Increase, 1941	5,792	†14,941	7,939	...	1,992	†14,590	23,270	1,324
	22.7%	†34.4%	1.9%	...	11.5%	†2.9%	4.9%	0.2%

*Total all oils includes crude and refined products, natural gasoline, and benzol. Stocks April 30, 1941, represented 135 days' supply, which compares to 143 days on the same date in 1940. †Decrease. ‡Does not include natural gasoline blended at refineries. §Includes crude oil and refinery products. In case of imports includes receipts in bond for domestic use. All data based on Bureau of Mines report.

Industry May Avert Severe Cut in East Coast Supplies

(Continued from Page 9)

ness in that material with North Atlantic ports originated there.

Combined shipments of crude and refinery products from Houston, Tex., last January totaled 7,787,110 bbl., or 251,195 bbl. daily. Beaumont's total of 7,632,545 bbl., or 246,210 bbl., was only slightly behind in second place from a standpoint of volume of shipments to North Atlantic ports.

Dependence of North Atlantic states on the regular delivery of Gulf Coast petroleum may be judged from the volume of receipts of crude and refined products shown separately and combined in Table 3.

Pending withdrawal of all 50 tankers from coastwise service that have been earmarked for the British, shippers on the Gulf and buyers on the East Coast have attempted to move the maximum amount of petroleum. This effort to cushion the impact resulting from tanker diversion when it is applied with full force accounts for the indicated bulge in June shipments and for the counterseasonal trend of some stocks in the eastern section of the country.

If the industry has or will be permitted by subsequent events to adjust its inventory position on the East Coast to bridge over until new pipe lines or additional tankers can be made available there is little likelihood that consumers will notice the unbalancing effects of tanker diversions.

TABLE 3—SOURCES OF NORTH ATLANTIC PORTS COASTWISE PETROLEUM, JANUARY 1941

(Figures in barrels daily)

Port of origin—	Crude oil	Products	Total
Corpus Christi, Tex.	22,185	45,060	67,245
Texas City	14,755	84,255	99,010
Houston	35,030	216,165	251,195
Port Arthur	42,385	143,335	185,720
Beaumont	142,985	103,230	246,215
Other Texas	96,805	16,265	113,070
Total Texas	354,145	608,310	962,455
Lake Charles, La.	26,455	.....	26,455
Baton Rouge	31,880	45,485	77,365
New Orleans	13,180	5,485	18,665
Total Louisiana	71,515	50,970	122,485
Grand total (both states)	425,660	659,280	1,084,940

PETROLEUM RECEIPTS AT NORTH ATLANTIC PORTS, JANUARY 1941

(Figures in barrels daily)

Receiving ports—	Crude	Products	Total
Baltimore, Md.	29,010	51,765	80,775
Beverly, Mass.	.....	4,305	4,305
Boston	42,380	91,255	133,635
Delaware River ports	.....	5,835	5,835
Fall River, Mass.	.....	10,860	10,860
New Haven, Conn.	.....	15,560	15,560
New York	121,580	306,505	428,085
Philadelphia, Pa.	229,465	63,210	292,675
Portland, Me.	.....	19,775	19,775
Providence, R. I.	3,225	76,360	79,585
Tiverton	.....	6,010	6,010
Wilmington, Del.	.....	3,415	3,415
Unknown Atlantic	.....	4,425	4,425
Total North Atlantic	425,660	659,280	1,084,940

Refinery Expansion

Aviation Gasoline Capacity Raised at Beaumont Plant

NEW YORK, July 1.—In response to the Office of Production Management's request to the oil industry for a 25 per cent increase in production of 100-octane aviation gasoline, Socony-Vacuum Oil Co., Inc., announced last week that it has increased its production of that grade of gasoline by 30 per cent at the Magnolia Petroleum Co.'s Beaumont, Tex., refinery, by an improvement in refinery methods.

For the first 6 months of this year, the Beaumont plant has been producing at the rate of 1,000,000 bbl. of 100-octane aviation gasoline a year. In the second 6 months this production will be at the rate of 1,300,000 bbl. per year.

Present output of 100-octane gasoline for the industry as a whole is believed to be more than adequate for the demands of the next 12 months.

Bradford Oil Refining Properties To Be Sold at Public Auction

BRADFORD, Pa.—Trustees of the Bradford Oil Refining Co., at Foster Brook, which was virtually shut down at the end of December 1940, will offer the property for sale at a public auction July 19, according to legal notices appearing in local newspapers. The notice was signed by Sterns Marshall, president of the Citizens National Bank of Bradford as individual trustee and the bank as corporate trustee.

To be offered for sale will be the plants, buildings, equipment, etc., and about 40 miles of pipe line. Trustees for the bondholders took possession of the plant several months ago. Bondholders might bid in the plant, it was said.

Premier Acquires Ohio Oil Co.'s Refinery at Fort Worth, Tex.

Premier Oil & Refining Co. of Texas, a corporation headed by J. R. Parten, Houston, Tex., chairman of the board, has purchased the Fort Worth, Tex., refinery of Ohio Oil Co. and control in the West Central Texas gathering system of Illinois Pipe Line Co.

Premier's newly acquired plant at Fort Worth has capacity of 4,500 bbl. daily. Facilities include a 1,500-bbl. cracking unit, a lubricating oil plant and equipment for removal of wax.

Premier operates a 4,000-bbl. refinery at Willow Springs, Tex., which has a 2,000-bbl. cracking unit and a skimming plant with 4,500 bbl. per day capacity at Cotton Valley, La. Mr. Parten is also chairman of Baird Refining Co. which operates a 1,500-bbl. plant with an 800-bbl. cracking unit at Baird, Tex.

Disposal of its refining facilities at Fort Worth is the final step in Ohio Oil Co.'s withdrawal from manufacturing and marketing operations in Texas. The process of liquidating refining and marketing facilities has been continuing for several months. Operation of the Fort Worth refinery will be assumed by Premier on July 16 at which time it will post prices for crude purchased in the West Central Texas district. The Illinois Pipe Line Co. gathering system is connected to 517 wells in Palo Pinto, Erath, Eastland, Stephens and Comanche counties.

In addition to Mr. Parten, officers of Premier are Sylvester Dayson, president and general manager; Sam W. Ross, vice president, and R. B. Hargis, secretary-treasurer. L. G. Fufilho is general superintendent of refineries.

Home Oil Co. Refinery in Montana Sold to A. B. Cobb & Co.

A. B. Cobb & Co., independent producer in Cut Bank, Montana, with some production in Lance Creek, has purchased the Home Oil Co. refinery at Great Falls, Mont. Retail outlets, including 40 service stations and bulk plants were transferred in the deal. The Cobb company also acquired the W. E. Rice properties in the Pondera field containing 75 wells making 450 bbl. a day. Mr. Rice retains his Kevin-Sunburst properties and 12 service stations. Cobb interests have 34 wells in Cut Bank with a daily potential of 900 bbl., giving the refiner call on 1,350 bbl. a day from 108 wells.

Oldest Plant in the West

Magnolia Petroleum Co.'s refinery at Corsicana, Tex., was inadvertently described in The Oil and Gas Journal of June 12 as the oldest plant west of the Mississippi River. The old Florence Refining Co. plant at Florence, Colo., later United Oil Co. and more recently Continental Oil Co. was built in 1887, making it predate the Corsicana refinery by 11 years.

Natural Gas

Action Taken to Prevent Increase in Carbon-Black Prices

WASHINGTON, D. C.—Action to prevent a general increase of 12½ per cent in carbon-black prices for the third quarter have been taken by the Office of Price Administration and Civilian Supply through a letter inviting all major producers and distributors of carbon black to a conference at which the problems of the industry may be presented and discussed. The invitation, over the signature of Leon Henderson, administrator, called attention to OPACS' frequently announced position that no price increases should be made unless the industry is unable to maintain reasonably satisfactory operations at existing prices and that major price changes should be taken up in advance with his office.

A distributor for one of the large producers of carbon black had announced a 12½ per cent mark-up effective as of July 1. This is one in a series of advances in prices since the beginning of the current year and would raise domestic bulk black from 3 to 3.375 cents per pound and packaged black from 3.175 to 3.575 cents per pound, both f.o.b. plant. On April 4 of this year bulk was increased from 2¾ to 3 cents per pound and packaged black from 2.925 to 3.175 cents.

Current stocks of carbon black, an important raw material in the rubber, paint and printing ink fields, are estimated to be equal to about 3 months' supplies. Demand in the domestic market has been running well ahead of a year ago, although exports have been affected adversely by the war in Europe.

Natural Gasoline

N.G.A.A. Names New Technical Committee and Outlines Work

Personnel of the technical committee of the Natural Gasoline Association of America for the 1941-42 research year was announced this week by Ray E. Miller, Hanlon-Buchanan, Inc., president of the association.

H. H. Beeson, vice president Sabine Valley Gasoline Co., Shreveport, La., was appointed chairman of the committee succeeding C. R. Williams, Continental Oil Co., who is on a special assignment for his company in Baltimore, Md. Carl E. Wharton, Hanlon-Buchanan, Inc., Gladewater, Tex., was appointed vice chairman.

Other members of the committee are: R. C. Alden, Phillips Petroleum Co.; L. A. Boyd, Warren Petroleum Corp.; M. R. Church, Shell Oil Co., Inc.; G. P. Crutchfield, Roeser & Pendleton; D. B. Dow, I. T. I. O. Co.; F. E. Fisher, Skelly Oil Co.; W. F. Fulton, United Gas Pipe Line Co.; R. D. Gibbs, Union Oil Co. of California; Joe Gershovitz, Parade Gasoline Co.; F. B. Haverfield, Continental Oil Co.; H. J. Hunter, Coltexo Corp.; Fred F. Ketchum, Owens, Libby-Owens Gas Department; E. C. LeFevre, Cities Service Oil Co.; E. M. Parkin, Glacier Production Co.; N. K. Rector, Glen Rose Gasoline Co.; C. A. Short, Lisbon Gasoline Co.; J. L. Thompson, Lone Star Gasoline Co.; Carl Vickburg, Carter Oil Co. and D. M. Wolfe, Standard Oil Co. of California.

Speaking of the work ahead for this committee Mr. Miller stated:

"Last year was a heavy one for these research men but the 1941-42 season has extremely important work scheduled. Chief item on the agenda is the completion of studies leading to the standardization of fractional distillation apparatus and procedure for natural gases. This will be followed with similar studies on liquids. Fifteen laboratories are cooperating in this project, exchanging identical samples of materials to be analyzed and through correlation of results and gradual experimental changes in methods, are improving the duplicability of results."

Other items on the agenda include an investigation of simple methods for determining the presence of sulfur compounds in liquefied petroleum gases and the setting up of a standard table of volume correction factors and the completion of a new hydrometer method for determining the specific gravity of such gases. The committee also is working with other national technical societies to perfect a standard table of physical constants for the hydrocarbons most usually encountered in natural-gasoline-plant operations.

Recycling News

Cotton Valley Recycling Plant Dedication Date Set

The 150,000,000-cu.-ft. recycling plant of the Cotton Valley Operators Committee, Cotton Valley, Louisiana, will be dedicated at a ceremony July 10. Attending the celebration will be Gov. Sam H. Jones of Louisiana, members of the state Department of Minerals and Board of Minerals and officials of the oil companies who are represented in the project through the operators committee.

All Cotton Valley operators and royalty owners and their families and guests and friends are invited and a crowd of perhaps 1,000 is expected. The governor's party will be conducted on an official tour of the plant. A barbecue lunch will be served by the Cotton Valley Operators Committee employes in the park.

The Cotton Valley unitization and pressure-maintenance project, recognized in the industry as one of the outstanding conservation and unitization achievements of the Mid-Continent fields, was culminated by the recent completion of the plant at a cost in excess of $2,250,000.

Distillate production is expected to be about 10,000 bbl. daily, and in excess of 500 bbl. daily of isobutane will be manufactured. Residue gas of about 130,000,000 cu. ft. daily from the plant will be returned to the producing formation through injection wells. The entire field comprising approximately 12,000 acres has been unitized, as to all formations below the base of the Travis Peak, under the terms of the Cotton Valley unitization and pressure-maintenance agreement executed by 26 operators, independents and majors, and more than 600 land owners and royalty owners. After public hearings before the Department of Minerals an order was issued approving the agreement, designating the Cotton Valley Operators Committee as the operator of the unitized properties and providing for the field to be operated as a unit. Gas distillate production is from wells in the Bodcaw and "D" sands found at a depth below 8,000 ft. with gas-distillate ratios of approximately 13,000 to 1, and the gas distillate area is encircled by a rim of oil wells, located outside the Bodcaw and "D" sand participating areas, producing with gas-oil ratios varying from 2,000 to 1 upwards. One of the chief conservation features of this operation is the handling of the rim oil-gas production in the plant, thus utilizing this gas for return to the formation, for pressure maintenance, and sale for industrial-commercial purposes.

Benton Is Best Field Found in Illinois This Year

(Continued from Page 14)

age places it at around 1,700 acres which is about the present extent of the pool. The field is not completely surrounded by dry holes but it is pretty well defined on the northeast and southwest sides, leaving a chance for extension on the two ends of the pool. Possibilities below the Tar Springs are discounted as the discovery well, E. S. Adkins 1 Orient Coal Co., NE SW SE 24-6s-2e, was drilled to a total depth of 3,045 ft. through the McClosky section. The E. S. Adkins 1-C Orient Coal Co. was drilled to 2,916 ft. with the Fredonia lime being topped at 2,876 ft. The discovery well in the West Frankfort pool in SE NE NW 12-7s-2e topped the St. Louis lime at 2,983 ft. and reached a total depth of 2,989 ft.; a show of oil was found in the Fredonia lime which was topped at 2,893 ft.

Thickness of the pay sand varies from 9 ft. to more than 60 ft. with the average being 34 ft. and the top being found on the average at 2,108 ft. In some cases the sand is not continuous vertically but actually has two pay sections with a shale break a short distance in from the top. Generally the Chester sands in Illinois are not this thick. Initial production of the wells has varied from a little more than 50 bbl. to as high as 912 bbl. with an average of 327 bbl. The bulk of the wells are completed for an initial of between 200 and 400 bbl.

Most of the wells are completed on the pump although some have flowed. The 912-bbl. well flowed on completion after being shot with 60 qt. in 20 ft. with the pay section totaling 37 ft. It was W. O. Morgan 1 J. P. Minier, NW NW NE 36-6s-2e. Practically all of the wells make some water even those high on the structure. Those not so favorably located, or drilled too deep into the pay, produce a considerable volume of water, indicating that the field might have an effective water drive.

Lease Troubles

The Benton field probably has enjoyed as many arguments over the ownership of leases as any field in Illinois. Coal has been mined in the area for a number of years and some of the leases were obtained from companies owning severance deeds, some from present surface owners and some from heirs to people who previously held either the coal or the surface rights. There are also the usual dangling strips to further complicate the problem. The original leasing in the area was done by E. S. Adkins, H. H. Wegener and the Shell Oil Co., Inc., but as soon as production was discovered in the area, other independent companies rushed in. Shell Oil Co., Inc., is the only major operator in the field.

Most of the oil moves out of the field through pipe lines belonging to the Sohio Pipe Line Co. and the Illinois Pipe Line Co. Part of it moves east and south to Mount Vernon, Ind., for river shipment and the remainder moves east and north to main lines terminating in Lima, Ohio. Manley Pipe Line Co. and Central Pipe Line Co. also purchase in the field. Shell Oil Co., Inc., has a price posted in the pool.

●

Proportion of Technical Workers Shows Rapid Rise Within Decade

(Continued from Page 18)

deficiency of his present fuel, anticipate future automotive needs, and then anticipate his portion of the sales volume. After doing all this, he is in a position to better determine how he might produce this volume of better material. He naturally first considers to what extent his present equipment and operating methods may be employed and to what use new byproducts may be put. All of these problems call for a full measure of research and no company can now afford to approach the answer blindly.

The increased use of tetraethyl lead once permitted many companies to long delay their building thermal or catalytic units of one type or another. However, the level of motor-fuel octane ratings has long since increased to force the installation of catalytic cracking, polymerization, alkylation, isomerization or some other form of unit to rearrange the molecular structure of the hydrocarbons in the motor-fuel range before that stock may be considered suitable for the addition of an economical quantity of lead. Obviously, what might be considered an economical limit for one refiner might not be found economical for another. Each must determine the lead responsiveness of his particular gasoline production before he can evaluate the limit to which lead may be used. This requires considerable research. And even though willing and capable advice is available from engineering and equipment companies who offer to license and sell processes to bring about this improvement in the motor-fuel quality, the refiner is obligated to maintain at least a skeleton technical organization in order to correlate and compare guarantees and operating results.

While these technological changes account for much of the added technical help engaged by refineries, similar changes are coming about in all other branches of the petroleum industry. The composite of these has apparently justified, within the past 10 years, the industry's doubling the number of researchers in its employ. Furthermore, it seems reasonable under present conditions that the number will be doubled again in the next 10 years.

Some idea of the rate at which the employment of technically trained men has progressed in the past 20 years may be derived from the following table as compiled by the Works Progress Administration and reported as a research project.

RESEARCH PERSONNEL

Year	Number
1920	145
1927	788
1933	2,724
1938	5,038

For purposes of comparing rates of increases by classes the following table showing the number of refinery wage earners is included. These data are from the Bureau of the Census.

REFINERY PERSONNEL

Year	Number
1920	61,300
1930	76,200
1940	83,200

However, it is not equitable to compare the two tables without recognizing that the number of researchers includes those in all branches of the industry and is not limited to refining alone.

CALENDAR OF EVENTS

September

AMERICAN CHEMICAL SOCIETY, Atlantic City, N. J., September 8-12.

NATIONAL PETROLEUM ASSOCIATION, thirty-ninth annual meeting, Hotel Traymore, Atlantic City, N. J., September 17-19.

SOCIETY OF AUTOMOTIVE ENGINEERS, national tractor meeting, Schroeder Hotel, Milwaukee, Wis., September 25-26.

NATIONAL LUBRICATING GREASE INSTITUTE, ninth annual meeting, Stevens Hotel, Chicago, September 29-30.

October

WEST VIRGINIA OIL AND NATURAL GAS ASSOCIATION, annual convention, Clarksburg, W. Va., October 2-3.

NATIONAL FOREIGN TRADE CONVENTION, twenty-eighth meeting, Hotel Pennsylvania, New York City, October 6-8.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION, twenty-second annual convention, Beaumont, Tex., October 9-11.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, Pacific section, Los Angeles, Calif., October 16-17.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Dallas, Tex., October 16-18.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, twelfth annual meeting, Tulsa, October 20-21-22.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Southern California Section, Los Angeles, Calif., October 30-31.

SOCIETY OF AUTOMOTIVE ENGINEERS, national aircraft production meeting, Biltmore Hotel, Los Angeles, Calif., October 30-November 1.

CALIFORNIA NATURAL GASOLINE ASSOCIATION, Los Angeles, Calif., October 31.

November

AMERICAN PETROLEUM INSTITUTE, twenty-second annual meeting, St. Francis and Palace Hotels, San Francisco, Calif., November 3-7.

December

EXPOSITION OF CHEMICAL INDUSTRIES, eighth annual meeting, Grand Central Palace, New York, December 1-6.

NEW MEXICO OIL AND GAS ASSOCIATION, Artesia, N. M., December 3.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS, Southeastern district meeting, New Orleans, La., December 3-5.

OKLAHOMA STRIPPER WELL ASSOCIATION, Tulsa, December 5.

1942

February

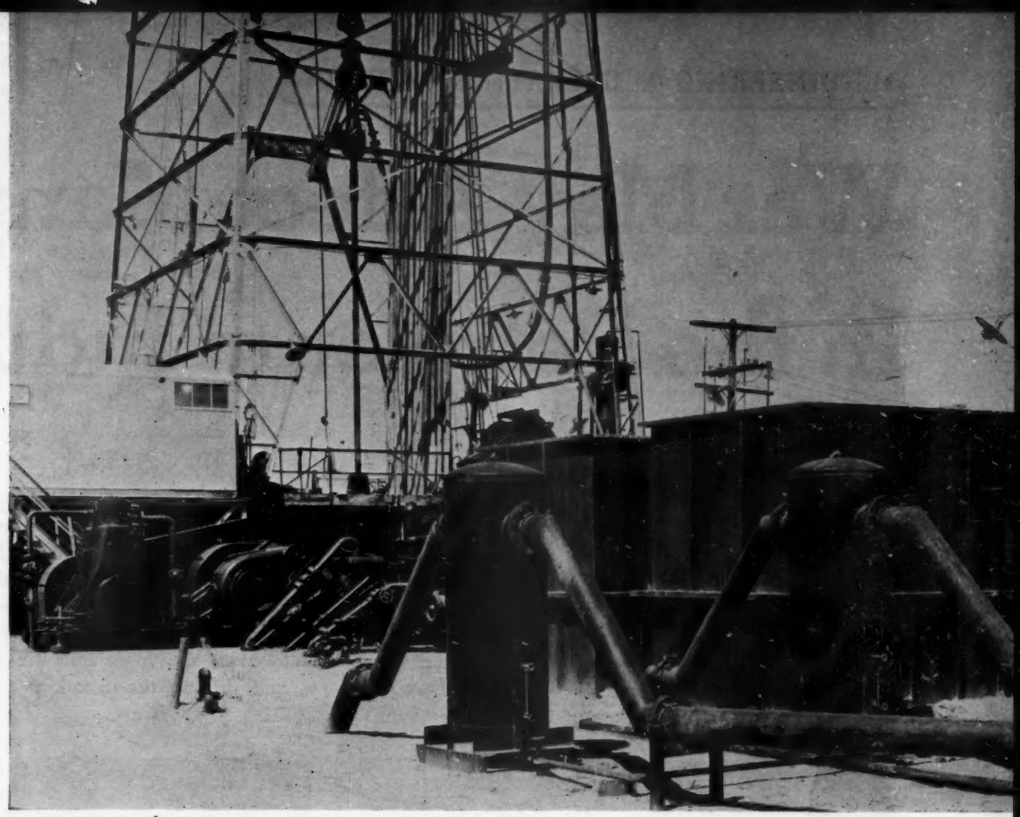
TEXAS OIL AND GAS ASSOCIATION, Wichita Falls, Tex., February 28.

April

NATIONAL PETROLEUM ASSOCIATION, thirty-ninth semiannual meeting, Cleveland, Ohio, April 16-17, 1942.

August

MISSISSIPPI OIL EXPOSITION, Yazoo City, Miss., August 27-29.



Equipment required in rotary-drilling operations has tended to enlarge as drilling depths increase and operators take more precautions to prevent loss of hole. At this large rig drilling in California steel tanks are used for mud pits and a 9 by 10-in. twin-cylinder steam engine drives a 7¾ by 20-in. power pump. The degasser can be seen in the corner of the derrick over the top of the tanks, and separators are used on the steam-exhaust lines. Racking the drill pipe on the side instead of in front of the drum is standard practice in California

ENGINEERING & OPERATION

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Although there is little actual shortage of equipment in the drilling and producing departments, there is possibility that a scarcity is in the offing—depending to a great extent upon the action of the priorities board. Here the author points out some of the things that may be done to avert shortages and the methods being considered by oil company and drilling organizations to keep operations functioning smoothly.

SKIDDING RIGS ON SAVANNAHS OF EASTERN VENEZUELA
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In the Oficina field of Venezuela, Mene Grande Oil Co. developed a technique for skidding derricks and completely unitized its equipment in order to reduce time lost in rigging up and dismantling. Equipment and methods described have been important factors in lowering drilling costs and over-all time required for completing wells.

CORRELATING FIELD, LABORATORY RESEARCH IN SECONDARY RECOVERY
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In secondary recovery operations certain fallacies have continued to be unquestioned for so long that they are regarded by some operators as fundamentals. Some of these assumptions discussed by the author are the fallacy of back pressure, the fallacy of high-pressure differential, that a sand body can be reproduced, and the fallacy of differential shooting.

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War May Affect Many Practices In the Petroleum Industry

By HARRY F. SIMONS

At the present time there is little actual shortage of equipment in the drilling and producing departments but there is considerable fear that a scarcity is in the offing. Key to the situation is the priorities board which to date has not looked into the oil business sufficiently to get an idea of its requirements. The accompanying article does not predict a shortage of material but it points out some of the things that may be done to avert shortages and the methods being considered by oil company and drilling organizations to keep operations going smoothly.

Disposal of salt water requires special pipe. Above is steel pipe lined with a material impervious to the effects of salt water

At right is an asbestos pipe used for gathering systems. In addition there is vitrified tile and an impregnated paper pipe made for salt-water gathering systems

FROM a recent talk by a member of the priorities board and the fact that the oil industry has suffered a very low rating on the priorities list, it is evident political leaders have erroneously assumed that while oil is essential to the national defense, nothing is essential to the operation of the oil business. To meet this situation, it will be necessary for many companies to change many of their operating methods over the next few years.

The most desirable change will be those which either increase the efficiency or reduce the costs of a particular operation. These will be snapped up immediately and put into use. Many of the research and engineering staffs will probably concentrate on the solving of some particular problem of immediate importance rather than on the long-range developments.

Another type of change will be those in which it is necessary to devise a substitute piece of equipment or method for some particular job. This will in most cases result in a less efficient and more costly operation and if much of the makeshift practice becomes necessary, the price of oil will have to be increased if the industry is to continue to operate many marginal wells.

Already the effect of the war has been felt by oil companies which were developing or perfecting new types of equipment. Formerly, oil and manufacturing company engineers have worked closely together on such jobs. Recent requests for experimental design equipment have been met with the statement that delivery could not be promised in less than a year; others have replied that a year ago they would have been overjoyed to get such an order but at the present their facilities were all taken up with national-defense projects.

It is obvious that anything which does not reduce the amount or quality of steel needed for a particular item cannot be developed at this time. In other words, the national-defense economy has placed a premium on the conservation of steel which will ultimately cause an increase in the cost of oil production.

It has been estimated by W. V. Howard (The Oil and Gas Journal, Jan. 30, 1941, p. 36) that the oil industry is well above the level of possible shortage of immediately available reserves by about 2.5 years supply, or 3,350,000,000 bbl. Continuing, "If production remains steady, our present reserves are sufficiently great to permit 2.5 years production without any new discoveries before there would be any real fear of shortage."

This statement is based on the assumption that wells already on production could be maintained in their present condition and there would be nothing which would hasten their decline or bring them to the point where it would be economically impossible to operate them. It is also based on the current demand for oil products and not on the expanded demand which has resulted from the quickening of the industrial pulse.

A stoppage in drilling would be felt immediately in certain areas, while in others it would be several years before the effects would be felt. A severe curtailment of drilling together with an

Some idea of the amount and types of tubular goods used in rotary drilling can be gained from this picture. It includes two sizes of drill pipe, as many sizes of casing, and a few drill collars

increased demand would result in a substantial reduction in the 2.5 years supply assured at the present time. It would also cause a drilling boom of large proportions as soon as the gates of steel production were once more thrown open to the petroleum industry.

If oil companies have been economy-minded over the past 10 years, they will be even more so in the future, as it is now essential to their continued operation as well as the maintenance of a favorable balance sheet. Principal item of concern is in tubular goods which embodies a great bulk of the steel tonnage used by the oil industry. Conservation of this item is already under way without urging from the Government.

Reducing Casing Requirements

A reduction in the steel tonnage necessary for casing is being brought about by three methods: the elimination of surface and intermediate strings whenever possible, the use of second-hand casing and absolescent sizes and types, and the wider use of small-diameter pipe. This latter has been an important move in the past several years and each month sees more companies using 6¼, 5½, 5 and 4½-in. pipe. With only a certain amount of steel available, a 50 per cent reduction in the weight of casing used is an important saving. The reduction in casing size can be carried too far, however, and in the final analysis it is more important to see that the well is properly cased than it is to save the steel tonnage. In most cases, the reduction can be made without harm to the well but this is by no means a universal rule.

The move to smaller casing over the past few years has left some sizable stocks of the larger sizes of pipe. In the regular course of events, it might have been some time before this stock pile could have been worked off, but operators are now willing to use this pipe and are drilling larger holes in which to run this casing. After the present supply of 7-in. pipe is used, the program calls for drilling smaller holes and running smaller pipe. There will be some demand for larger pipe where well efficiency requires it.

Salvaging of pipe is not new but the methods of recovering pipe from the hole have improved over the past several years. There are some wells facing abandonment which have a sizable quantity of steel in them and an effort will be made to recover as much as possible. Most of this casing is in good condition when pulled from the ground and the companies are equipped for effecting in their own shops the needed repairs to the threads and couplings.

The elimination of surface and intermediate strings of pipe is fraught with hazards and is something which should be approached with a fund of knowledge of the particular area instead of a rabid zeal to save pipe. There are many areas where a reexamination of the conditions might indicate a casing program equally as good as the one now used which would at the same time reduce the amount of pipe needed. In some cases, pipe weighing less per foot or of a lower grade may be safely and satisfactorily used.

The elimination or reduction of surface or intermediate strings can only be made by throwing a greater load on the drilling fluid and increasing the hazards of the operation. Where contractors are required to maintain a large section of open hole, the drilling price will have to be raised to compensate for the increased risk. An adequate mud program can only be designed by an engineer who has specialized in this problem.

Generally, a satisfactory drilling fluid can only be made by using large quantities of different minerals. Fortunately, there has been no shortage indicated for most of these materials; a recent Bureau of Mines bulletin showing that the supplies of bentonite were adequate. There is also plenty of barytes. Chestnut extract is imported and there may be difficulty in obtaining it but there is probably sufficient native quebracho available for mud treatment. Some of the fiber material may become scarce as it is used for making wall boarding, but there are a number of substitutes so this will not be a pressing problem. Most of the other mud-mixing materials are either waste or byproducts and an ample supply is available.

Availability of New Rigs

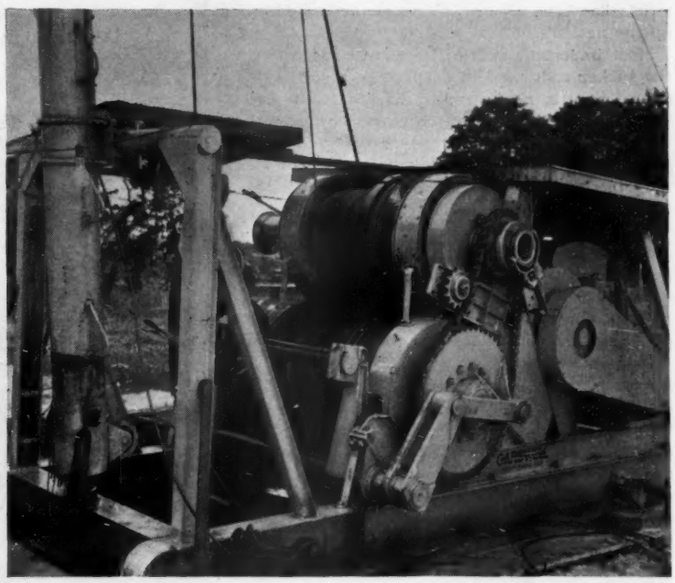
A wholesale diversion of steel from the oil-field manufacturers to the defense industries will reduce the number of new rigs available to the drilling contractors and oil companies. No shortage has been experienced yet in draw works, pumps, traveling blocks, etc., but there has been some difficulty in obtaining certain types of engines with which to drive the mechanical rigs. This will probably get more severe as the defense program really gets under way and it is conceivable that many of the larger items used by drilling organizations will become scarce and hard to obtain.

This may lead to a revision in the mechanical rigs with one large engine (200 to 350 hp.) located between the draw works and pump for driving both and a smaller engine (125 to 180 hp.) connected to the rotary table. Already one contractor has ordered such a rig after using an individually driven rotary table for about a year on one of his other rigs.

Knowledge of the fact that replacements may be hard to secure has led many contractors to inaugurate maintenance programs and to revamp their rigs so longer life will be obtained from each part. The parts most susceptible to wear are the engines, bearings, chains, belts and drilling lines. More systematic lubrication of the engines and the effecting of repairs as soon as they are needed to increase their life; major overhaul jobs will be made in field shops rather than trading in the engines on new ones or sending them to the factory for rebuilding.

Removal of the abuse from these engines and from the rig will help increase their life as well as the service obtained from the bearings and chains. Proper lubrication of the latter, often neglected in rig operation, will be more essential as it will be difficult to replace them. Oil-bath chain guards are being placed on many rigs to increase chain life.

Reduction in the amount of high-grade steel needed for bit manufacture through the drilling of smaller holes will be negligible when compared to the national demands. More important from a tonnage basis as far as drilling is concerned will be the reduction in the size of drill pipe from 4½ to 3½ in. The larger pipe will not generally be suitable to drilling holes less than 7¼ in. in diameter and if the oil companies do find it necessary to go in for slim-hole drilling on a large scale, the smaller pipe will be used to replace the 4½-in. as soon as it is worn out. Only high-grade steels are used for drill pipe and a saving



Left: If internal-combustion engines become scarce due to the defense demand, electric pumping may gain in popularity. Shown is a pumping unit on a 1,300-ft. well driven by a 3-hp. electric motor. Right: Repair of wells requires considerable less machinery than the drilling of new ones. The machine pictured is a spudder which is normally used for completion work but which is also designed for repair and reconditioning jobs

in this item along with the tonnage saved through the use of smaller casing may be essential in freeing considerable mill capacity to other purposes.

Items of equipment such as pumps, steam engines, boilers, wire rope, etc., will probably receive better care than in the past in an effort to reduce the costs of operation and the consumption of material. The "slap-bang" style of operation, which is fortunately already on the way out, will be severely frowned on by rig owners. This will not only reduce the wear and tear on the machinery but will prevent damage due to accidents resulting from careless handling.

Production Practice

The most important threat to the producing branch is the withdrawal of nickel-alloy steels from all but the defense industries. The oil industry has been one of the leaders in the use of special alloys, particularly nickel steels, and its acceptance and willingness to pay for better materials has been a contributing factor in building up the nation's normal production of these items.

Most important uses of such steel has been in the sucker rods used in deep wells, special types of rod pumps, polish rods, valves, etc. In deep wells and in wells where corrosion or embrittlement is a problem, the improved rods and metal-to-metal pumps have been important factors in reducing the operating costs. Rod breakage has been almost entirely eliminated in deep holes due to the development of the nickel-steel rod over a period of years. The number of times it has been necessary to pull the rods and tubing in order to repair the pump has been substantially reduced through the use of the advanced types of pumps.

In shallow wells which are not bothered by corrosion, the problem will not be severe but will add slightly to the production costs. In the deep wells, or in those handling sour crude oil or large quantities of salt water, it will be an important problem and will increase greatly the number of pulling jobs. The number of machines and crews engaged in this work will probably increase considerably over the next 2 years.

Tubing size has been reduced over the past few years to the practical minimum in most cases. Most operators try to determine the capacity of the well and then outfit it with the smallest tubing possible which will do the work. This eliminates the possibility of a large reduction in the amount of steel required to equip a well through the use of smaller diameter tubing.

If the supply of tubing really gets desperate it may be necessary to increase sharply the number of casing or other type pumps which can operate without a tubing string. Normally, casing pumps are used only in wells where large volumes of fluid need to be handled, but several companies in recent years have been experimenting with them in wells which would ordinarily have been equipped with tubing. These companies will have an advantage if it ever becomes necessary to adopt this method of lifting oil on a large scale.

The strain on the rod string is increased with the use of casing pumps even when small diameter plungers are used. This will necessitate the closer examination of the pumping cycle and proper balancing to eliminate shock and reduce the loads due to the reversal of travel. The same will be true of deep pumping as the nickel-steel rods become scarce and are replaced by common rods. This will cause an increase in the number of engineers engaged in the supervision of the actual production process.

There is no evident shortage of pumping units but difficulty has already been experienced in getting the desired type and make of internal-combustion engines. If a shortage of engines develops, the production department has an alternative available, the use of electric power. Some companies have installed electrically driven pumping units on many of their leases in the past 5 years and a situation could easily develop where the present choice in prime movers would be eliminated or greatly curtailed.

Both lease-generated and utility power are widely used in many fields. The lease generating plant requires at least one large internal-combustion engine, similar to a drilling engine in size, and there is a potential shortage of these engines. Consequently, public utilities may find more demand for current for lease operation than they have anticipated. The choice between purchased and generated current will come after both methods have been carefully examined.

In addition to the beam-type pumping units as a means of lifting oil there are the central-geared powers and the rodless-type pumps, all of which have been receiving constantly widening application and will be brought up for new consideration in light of the changing situation. When available each of these will be studied carefully to see if it is suitable to the particular property. In fact it may be necessary for the entire pumping problem to be reexamined to determine which method, under a restricted supply of material, is the best for each particular property.

Repair, reconditioning and recompletion of wells may bolster production while the drilling of new holes is reduced by steel shortage. Above is a gun perforator being loaded preparatory to opening an upper horizon in a well

Where a cheap gas supply is available and in fields where gasoline plants are in operation, gas-lifting may also receive an impetus as a substitute for pumping. This method has been substantially improved in the last few years and it, along with rodless pumps and sometimes in conjunction with them, will probably be applied to suitable wells. This will release rod-type pumping equipment for use on wells where it is absolutely required.

If the supply of oil is sufficiently great to meet the increased demand, there will be no necessity for forcing the production from the wells and more stringent conservation of reservoir energy will probably be enforced by many companies. Increased lifting costs due to pumping have long been a vital reason for maintaining flowing life as long as possible and this practice will pay even larger dividends in the next few years. Where equipment is available, the bulk of the oil producers will probably look more favorably on pressure-maintenance and reservoir-control projects.

This is only a general outline of the situation which may be confronting the oil industry and some of the means available for meeting the problems. Conditions may grow no worse than they are at the present time, when there is not so much actual scarcity of materials as there is difficulty in finding and obtaining it. On the other hand, a long war and a defense program extended over a number of years without an accompanying increase in steel capacity to take care of both the war and normal demands, might well lead to a definite shortage of materials necessary for the continued economical operation of the oil industry.

The question is not one of actual operation so much as it is of economically producing the oil. The present well-prepared state of the oil business is due in a large measure to the inventiveness of the men engaged in it and their willingness to encourage the development of increasingly superior metals, machinery, and equipment. If necessary, they can revert to material of lesser quality although this will add to the cost of operation. Field shops and company-owned shops will probably have to increase their scope and turn out a wider variety of items. The boards being organized under the petroleum coordinator may be helpful in solving this difficulty by seeing that the manufacturers supplying the producing companies receive a supply of the essential materials. If the essentials are provided, the operating men in the industry can solve the remaining problems.

●

BOOK REVIEWS

AIR AND GAS COMPRESSION, by T. T. Gill, Union Oil Co. of California. Price $3.

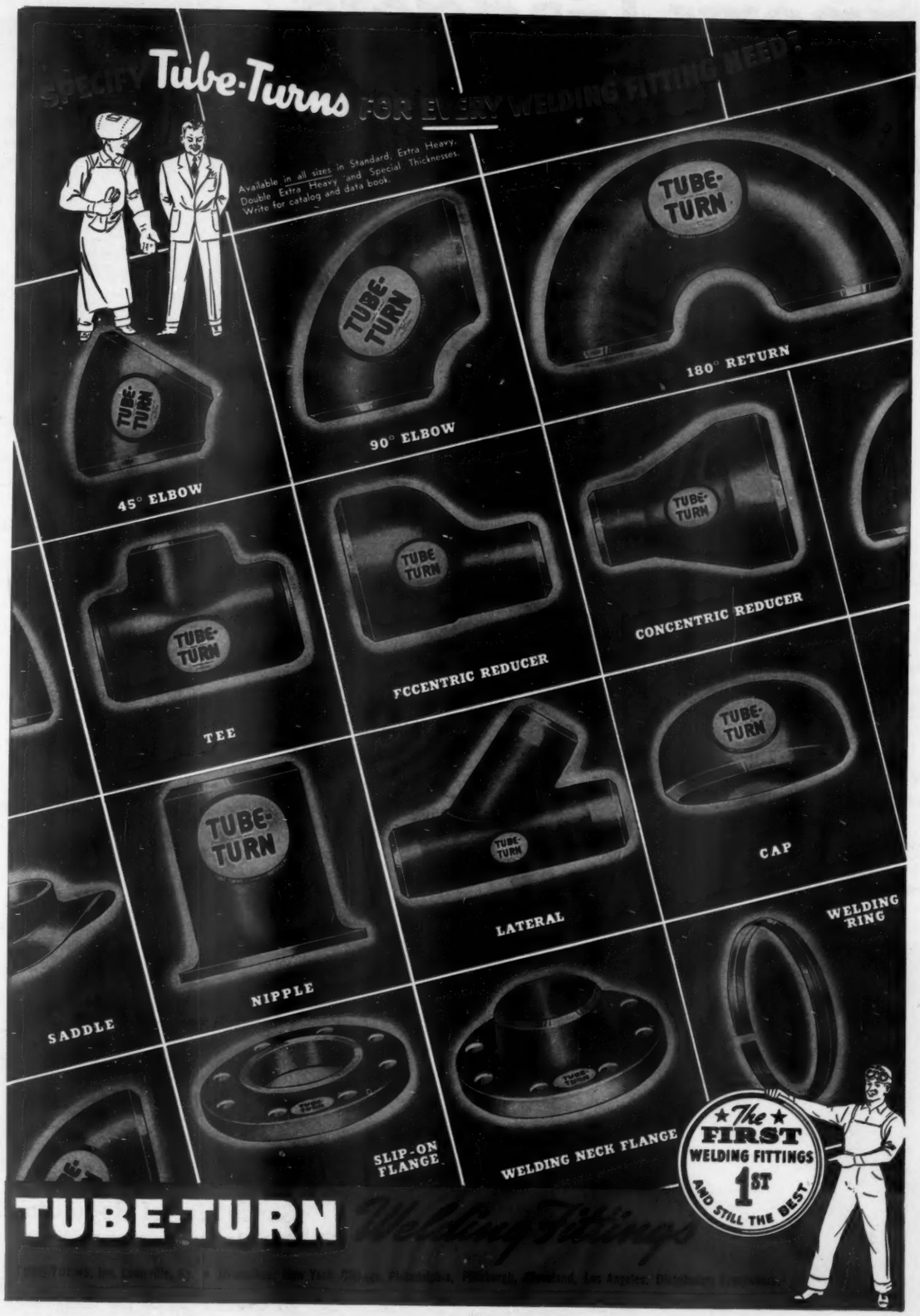
Recent researches in the properties of gases, especially in regard to compressibility, critical data and specific heats, prompted the author to attempt to apply some of the results attained to the solution of the problems of air and gas compression. Much of the material covered is appearing in book form for the first time, and a great deal of original work has gone into the preparation.

In addition to chapters on the theory of compression, the 181-page book also contains a chapter on the flow of gas in pipe lines, based on the Weymouth equation. A new series of tables is included which greatly reduces the labor required in computing pressure drop in pipe lines. A chapter on orifice meters serves merely as an introduction to the subject, containing sufficient information to enable the reader to use the gas-measurement handbooks published by the meter manufacturers and technical societies.

"Air and Gas Compression" may be purchased through the Book Department of The Oil and Gas Journal at the established price of $3, postage prepaid (extra outside the United States), and a copy will be forwarded promptly upon receipt of check or money order for that sum. Where payment is not provided, the book will be sent c.o.d. to avoid delay.

Oil and Gas Development in United States: National Oil Scouts and Landmen's Association Year Book, Vol. 11, 1941. Published by the association, Austin, Tex.

The National Oil Scouts and Landmen's Association's 1941 Year Book surpasses even the previous issues in completeness and in the care with which the year's data have been assembled. Covering the fields of exploration, development of new and old pools, production statistics, and leasing in all of the nation's producing and prospective producing states, the Scouts' Year Book is a necessity for all operators.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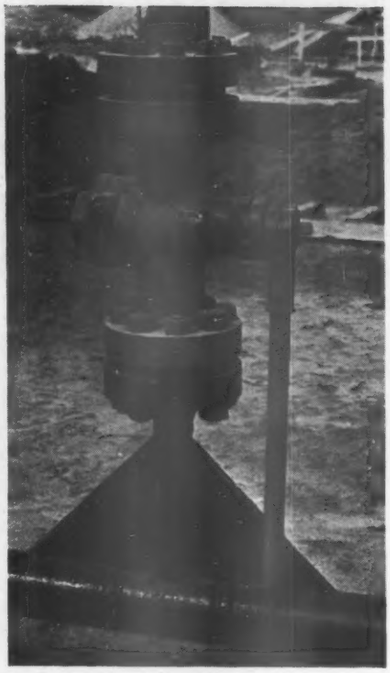
Refinery Gadgets

Oil Can Shaped To Serve as Record File

An ordinary 5-qt. rectangular motor oil can has been revamped to serve as an attractive and practical record holder. The ends were first removed from the can and then the sides reshaped to utilize the painted design most advantageously. An L-shaped plate was bent from other heavy tin plate to form the bottom and back. The back of the holder extends above the sides to permit fastening the holder to the wall.

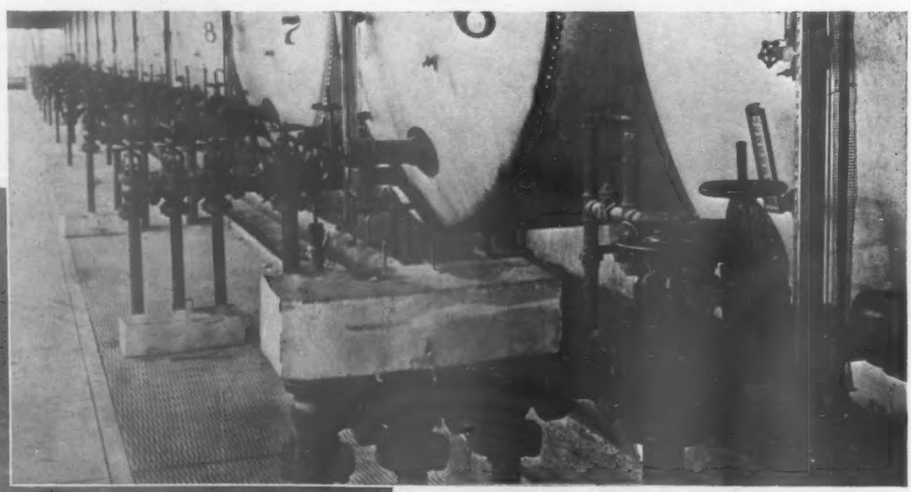


Reinforced Pressure Line

The shock which a vertical high-pressure line receives when a heavy valve is quickly opened or closed is a constant threat to the system unless the valve and the pipe are securely anchored. Many types of anchors are used but here is shown one of unusually wide angle to strengthen a vertical line holding a heavy-duty valve.

Valve Guards Minimize Mistakes in Blending

Once the valves are set on a manifold serving a battery of tanks, they are not conveniently tampered with in one plant where sheet-iron boxes are placed over the valves as guards. In the battery of tanks shown in the picture one box is shown in position while another is on the floor in front of the next tank. Each box is provided with a handle so that it may be conveniently placed. Slots are burned into the sides of the box to take a chain. In this manner the guard box may be padlocked in position. One box serves each tank or manifold of valves. The guard also causes the operator to stop and think before making a new connection for a battery, lessening the chance for error.



Sensitivity of Regulator Improved

In a plant where abnormally high gas pressures are maintained the operator has added a variable weight to the arm of a pressure-regulating valve to counterbalance the pressure of the gas and thereby make it possible for the more accurate control of the gas flow. The internal friction of the regulating valve is overcome to a point where moderate changes in the pressure against the diaphragm will actuate the main valve.

Skidding Rigs on Savannahs Of Eastern Venezuela

By FLOYD E. HATFIELD
Superintendent of Operations, Mene Grande Oil Co., Barcelona, Venezuela

IN order to increase the amount of high-gravity crude production following the proving up of large areas of the Oficina field in eastern Venezuela in 1938 and 1939, Mene Grande Oil Co. increased its number of drilling rigs to 15 in the spring of 1940. The Venezuelan crews, willing but inexperienced, soon developed into good handlers of drill pipe, pulling long strings in good time, but were less successful in rigging up and dismantling. The time lost between wells made imperative the early and complete unitization of the equipment.

The flat treeless savannah was ideal for skidding of derricks. Although the well depths of from 5,500 to 6,000 ft. required quite heavy equipment, by close cooperation of both drilling and transportation personnel a technique was worked out which permitted the rapid skidding of rigs and derricks for considerable distances and made possible the rigging up of equipment within satisfactory time limits.

The first step was to equip the derrick for skidding. There were 14 by 14-in. native hardwood timbers called "vera" already on hand which proved ideal for derrick sills. This wood is harder than oak, so hard that to drill bolt holes tool-steel drills had to be used. Its resistivity to abrasion, however, permitted the rapid skidding method finally employed, and following many skids only a few sills have been replaced. After some initial experiment using 4-in. pipe rollers and 3 by 12-in. skid boards it was discovered, because of the flat grassy surface, that very little more power was needed to move the derrick over the savannah without the use of rollers or board tracks; that the job could be accomplished much cheaper and quicker with no damage to derrick or substructure.

This is now regular practice and more than 100 derricks have been skidded distances from 350 m. up to 4 km. Derricks are prepared for skidding by removing the draw works, cutting loose material ramp and engine support, and disconnecting mud line. Rotary table, tongs, tong lines, standpipe, and other items remain in the derrick or on the floor, but due to the weight of the draw works it was found best to remove it. Crown and traveling blocks, hook and elevator links remain in the derrick and are used to hold up, by means of a short loop of heavy wire rope, the rotary support section of the substructure.

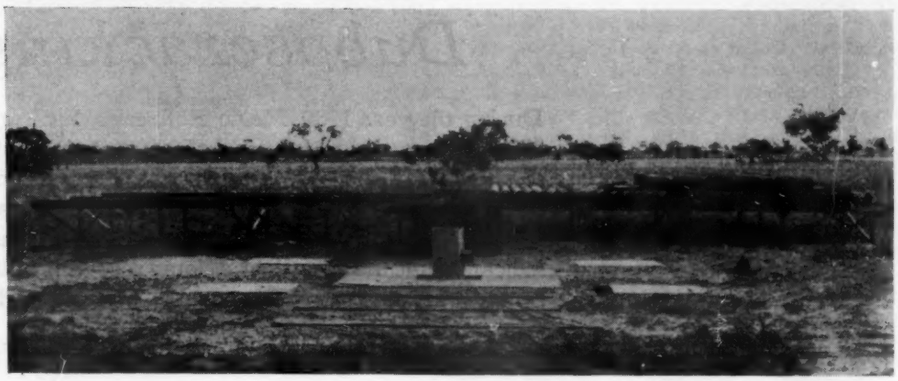
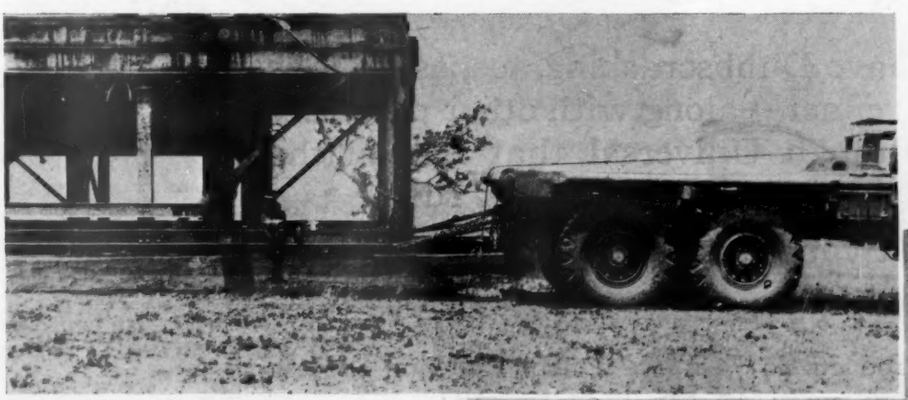


Fig. 3—Previous to skidding the derrick to the new location pits are dug, cement foundations are prepared, conductor pipe is set and drill pipe and casing racks set up

About 20 minutes is required to winch the derrick off the well site. Seven-inch pipe braces are bolted between the skidding sills at corners to stiffen the substructure, and two 20-ton trucks are backed up, one to each of the derrick corners facing the direction of move. Winch lines are secured with a short hitch to ends of the skidding sills and the derrick lifted a few inches to clear the ground. Chains are tied to the derrick legs to take the pulling load.

Preparing New Well Site

Additional units, either trucks or tractors, are placed in tandem with the two trucks supporting the derrick corners and all move forward in a low gear at a speed of 3 to 4 miles per hour, with almost no tilting nor vibration of the derrick apparent. A derrick in process of skidding appears in Figs. 1 and 2. Derricks are skidded 8 to 10 times and are then dismantled for inspection,



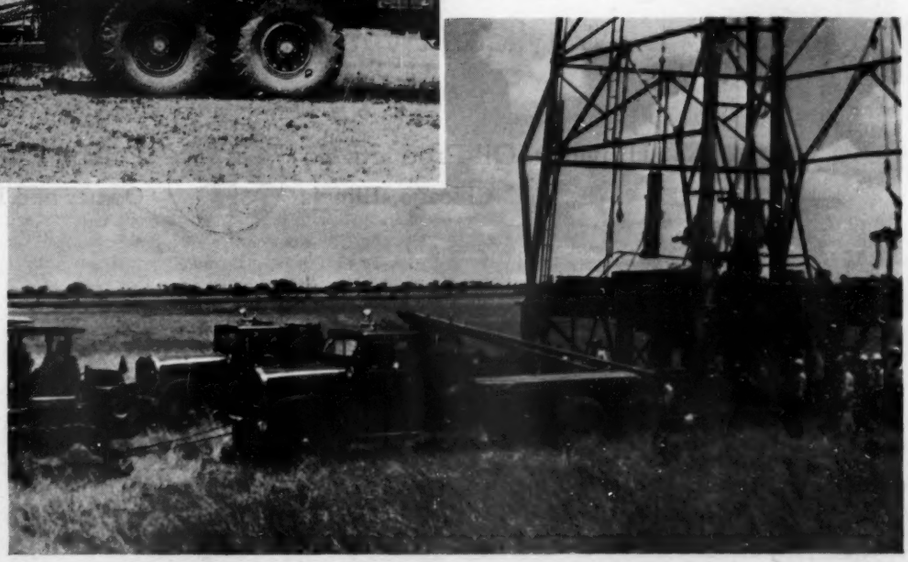


Fig. 1 (right)—Trucks and tractors placed in tandem pulling a derrick across a flat treeless savannah. Fig. 2 (above)—Skids are made from a native hardwood and derricks are moved without use of rollers or skid boards

Year in year out— Dubbscracking

During the year 1939, Malco Refineries, Inc., at Artesia, New Mexico, processed nearly 500,000 barrels of eastern New Mexico crude oil, producing 57.17 per cent of 400 endpoint gasoline, with an overall processing loss, including non-condensable gases, of only 7.85 per cent, which indicates that the plant had a liquid recovery of 92.15 per cent—J. C. ALBRIGHT in PETROLEUM ENGINEER, May, 1941

Very interesting, but how did Malco do it? That's what other refiners want to know

The answer is—by Dubbscracking

And why limit the story to 1939 performance? The Malco Dubbscracking unit is doing just as well today—and has been right along

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You can have Dubbscracking, too, as well as every other refiner—along with other processes available through Universal that realize the greatest values from any crude you run

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when generally a number of bolts in the substructure are replaced. Thus far no derrick failures that could be attributed to skidding have resulted.

Previous to skidding derrick to the new location, pits have been dug, cement foundations have been prepared, short conductor pipe set, and drill pipe and casing rack placed (see Fig. 3), and the derrick arrives within a truck length. Trucks are then placed just beyond the well foundations and the derrick is winched into position, this operation requiring from 15 to 20 minutes. The derrick is usually level and very little winching is necessary to spot it exactly over the hole.

Meanwhile, other trucks and tractors have moved in the engine, engine support and draw works, which are placed as soon as the derrick is landed. The mud pumps and boilers, usually the first units to be moved, have arrived and are in process of connecting prior to the arrival of the derrick. The drill pipe which was laid down at the completing well, after drilling of cement plug, is usually moved to the new location the previous day. Connection crews ordinarily connect the boilers and lay steam and water lines to the rig.

Rigging up then consists of joining the engine support carrying engine and engine house to the derrick, placing and anchoring the draw works and rotary, and connecting the mud-pump unit and drilling engine. In this way, although several members of the rig crew may be unskilled, within 24 hours or less from the time of previous completion another well is spudded.

Fig. 5—The steam trap, equipped with fittings that are easily made up or broken out, is skid-mounted so that it also may be quickly moved

Fig. 6 (below)—The drilling-engine unit and substructure, weighing about 45,000 lb., is moved in one load by means of the special trailer

Fig. 4 (above)—Track-laying trailer developed for moving heavy equipment from location to location. Here it is hauling the unitized mud pumps

Unitizing Mud Pumps

During the early period the green crews, unskilled in handling heavy wrenches and fittings, required a great deal of time to connect the mud pumps, therefore this problem received first attention. Two pumps—18 and 20-in.—and wash-down pump are mounted on a welded skid base of 8-in. pipe approximately 12 by 20 ft. Four-inch members of the base are used for water, steam and exhaust manifolds, and connected to the respective systems by use of quick couplings. A 4-in. armored rubber hose has made a convenient water-line connection. Pumps are, of course, permanently connected for compounding—by welded fittings—and an overhead mud line with a quick coupling runs direct to standpipe; adjustable extension rods from pump-throttle valves are placed on derrick floor. Mud suctions are not removed, but equipped with cranes and hoists, are raised from the pit and several feet off the ground prior to moving.

The entire unit being 12-ft. wide overall and weighing 55,000 lb. could be legally moved over few highways. Here the savannah offers no difficulties of this sort, but some experimentation was necessary before the present special low-down trailer or "duck wagon" was developed. Used daily in the Oficina field for moving mud-pump units (Fig. 4), engine house and support (Fig. 6), this trailer was constructed in the local shop using a pair of Athey wagon tracks and 8-in. used pipe frame. The trailer measures 13 ft. between the tracks, carries its load 24 in. from the ground, is towed by a track tractor, to which a winch at the rear is an important adjunct. About 15 minutes is required to place the pump unit on a trailer and about 5 minutes is needed for unloading, using the winch-equipped tractor only for this work. Usually less time is required for the actual move.

The early drilling-engine unit with wood-frame engine house and floor was converted into a strong well-braced structure with steel frame and safety-tread steel floor capable of supporting the usual tools and tool boxes, chain guards, extra fittings and supplies ordinarily kept at the rig. This load of about 45,000 lb. is likewise easily and quickly handled with the special trailer; a great improvement over the earlier method of skidding with the bottom members of the engine support in contact with the ground.

Boiler stacks, upper sections of insulation jackets and some fittings remain in place while 125-hp. boilers are being hauled as a body load on 20-ton trucks. Boiler-feed pumps and generators are combined in one unit with steam, water and exhaust manifolds built into the skid base.

Steam line to rig is placed on 3-in. pipe supports 18 in. high, is coupled with quick couplings at every 40-ft. length, and hauled on long-bed trailer. Steam trap and drilling engine with flexible exhaust connection comprise another skid-mounted unit (Fig. 5). Other small but time-saving items are the skids or cradles for the pressure-operated blowout preventers and master gates and racks with tilting members which are provided for supporting oil and kerosene drums. Mud-gun and mud-jet-control units are placed on ground near steps to derrick floor. Good housekeeping is the rule on the floor and around the rig; equipment is kept clean and is painted during cementing shutdowns.

By reducing to a near minimum the time between well completion and spudding, equipment and methods herein described have been important factors in lowering drilling costs and overall time required for completing the Oficina wells, now averaging on and off the well around 25 days. National drillers, some of them former members of the green crews referred to above, have replaced the Americans at Oficina so that the entire crews are now Venezuelan. Truck and tractor drivers moving this equipment are also largely Venezuelan, many with a rather short period of training. Results thus far indicate that they will soon handle this type of equipment with speed and skill equal to that of the Americans.

New Book on Welding Instruction

"Lessons in Arc Welding" makes available to industry and to engineering colleges and universities the accumulated welding instruction information from the Lincoln Welding School, which has been in continuous operation for 24 years. Helpful to beginners learning to arc weld, also to experienced welders desiring its comprehensive practical information, and to welding officials, such as supervisors, foremen and instructors, as well as others interested in the subject, the book comprises a ready reference on arc welding and a guide to its proper application.

The book is a series of 60 lessons which present, in concise manner, fundamental facts of welding, knowledge of which will enable the welder to utilize the process successfully and economically. It may be obtained for 50 cents per copy directly from the Lincoln Electric Co., or through any of its branch plants or dealers.

"YES SIR...THAT TIGER BRAND IS STILL GOING STRONG AFTER PLENTY OF TON-MILES!"

FROM THE DAILY REPORT OF A TIGER BRAND WIRE LINE ENGINEER

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Ray

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UNITED STATES STEEL

Correlation of Fuel and Laboratory Research in Secondary Oil Recovery

By H. R. PIERCE
Consulting Engineer

ALTHOUGH the scientific study of secondary recovery conditions is comparatively young, it is already encrusted with an accumulation of certain misleading assumptions which are widely accepted in the industry as established laws of nature. Acceptance of these fallacies has continued to be unquestioned by large numbers of production engineers for so long a time that they are now regarded as fundamentals. Thorough study of reservoir conditions shows them to be impediments to progress, and a growing number of production men are becoming aware of this.

Some of the misleading assumptions which are dealt with briefly in this article are the fallacy of back pressure, the fallacy of high-pressure differential, the fallacy that a sand body can be reproduced, the fallacy that saturation of a producing formation can be determined by a direct reading obtained in core analysis, and the fallacy of differential shooting. Some of these have been propagated by blind unquestioning acceptance, and by attention given to copying a neighbor's operations instead of studying one's own property.

The practices discussed in this article are the result of research conducted by a group with which I have been associated. The problems which we have solved by field and laboratory correlation investigations were instigated by J. George Wright, superintendent, Osage Indian Agency; Burdette Blue and H. V. Foster, presidents, Indian Territory Illuminating Oil Co.; J. O. Lewis, consulting engineer; O. F. Thompson, general superintendent, Associated Producers; C. B. Turner, executive vice president, South Penn Oil Co.; A. F. Melcher, U. S. Geological Survey, and John B. Corrin, president, Hope Gas Co.

Purpose of Laboratory Work

It was recognized several years ago that laboratory methods should be used in connection with field observations solely for the purpose of arriving at correct thinking in terms of existing underground conditions. Specific reservoir conditions cannot be reproduced in the laboratory. By correlating laboratory and field work, it has been possible to expose fallacies and develop new recovery methods, involving the use of gas, water, and solvents, which have proved profitable.

It should be apparent that the first prerequisite to intelligent laboratory investigation is a thorough knowledge of the problems to be solved. This most important fact seems to have been forgotten or never to have been realized by the instigators of research in this field.

It should be apparent that laboratory research can never be designed to reproduce a condition that never existed, namely the "field condition."

The term "field condition" has been used freely to mean the condition existing in all fields uniformly. This terminology or conception, inferring uniformity of condition in all fields, has been a stumbling block for years. Each field and sand has its own multitude of specific and varied conditions, and every pool and sand is radically different from all other pools and sands.

There are certain fundamental procedures (referred to generally as operating conditions) used in production operations that are commonly used in all pools.

The task undertaken is to determine from field and laboratory study how to adapt our operation to the actual conditions existing in a producing reservoir so that we may be able to best utilize energy (stored and furnished) to the best advantage, so that we can most efficiently and economically remove saleable products from them.

Over a period of 18 years we have built up and correlated the growth of actual field and operating experience with a continually expanding practical laboratory research program. (We have, of course, taken cognizance of all other published experimentation.).

Our laboratory research has been designed to help us think about field and operating conditions encountered in practical recovery operations. During the past 5 years a series of demonstrative tests were designed to reproduce deductive proof of, or to show the fallacy of, certain specific techniques encountered in actual operations. Also to check deductively, theories of operation generated from our experience or to check theories advanced by others.

By proper laboratory research we have been able to substantiate some of the apparent facts observed in the field; also to brand many of our assumptions as fallacies based on erroneous field observations or upon unsound reasoning about known field conditions.

We have designed research programs in the field and laboratory to prove or disprove many of the popular theories advanced as sound deductions, in many cases proving them to be snares and delusions.

Some of the research carried out that has resulted in our being able to prove or disprove some of the most popular conceptions of proper or improper operating technique are:

1. The most popular fallacy is that in most fields, producing efficiency can be increased by back-pressure application. Although many worthwhile pools can be made more lucrative and in many cases more efficient by designed manipulation, in most pools the recovery efficiencies are irreparably damaged by back pressuring. Certain types of reservoirs are permanently impaired in efficiency by any method of back pressuring.

This damage to the recovery efficiency of some pools by back-pressure application can be unquestionably demonstrated by properly designed laboratory procedures, even though it is a fact that when said back pressure was applied to the producing agents of the reservoir, the gas-oil ratio actually showed a decline; that is there was less gas being produced per barrel of oil than was being produced before the application of back pressure. (The gas-oil ratio is thought by some to be the only indication of efficiency.).

2. A generally accepted fallacy of secondary recovery application is that most sands are bypassed by having applied to them too much differential from pressure well to producer. Admitting that this condition can and sometimes does exist, simple laboratory technique proves there have been more sands bypassed and irreparably damaged by starting recovery operations with too low a differential between pressure wells and producers than has been done by starting with too high a differential.

The above statements of course, mean that there are two wrong differentials that can be used between pressure well and producer and that there is only one proper or most efficient differential. Therefore, it is twice as easy to be wrong as it is to be right.

3. There is continually cropping up the fallacy that a synthetic representation of a sand body can be reproduced. This is impossible, however, without understanding the wide variations in unit pore channel permeabilities. (This understanding was not possible before specific methods were devised to segregate and evaluate primary and secondary-flow channel.)

It is thought that when more engineers are able to determine the actual unit pore volume permeability arrangement of actual sands, more practical laboratory research progress will be possible.

We have worked extensively with packed and synthetic samples ourselves, otherwise we would have no comparison. We also admit having learned much from said experiments. However, we do not recommend the projection of deduction arrived at by such tests too far into expectations from naturally deposited porous media.

4. Results prove that more harm is done by

After graduating from Mississippi State College (then Mississippi A. & M.), H. R. Pierce became a student engineer for the Cities Service organization at Bartlesville, Okla., before going with U. S. Bureau of Mines as gas engineer; for a number of years afterward he served as consulting petroleum engineer for the bureau. He was transferred to the Oil and Gas Division of the Osage Indian Agency, and then was connected with I.T.I.O. After being an independent consultant he became participating engineer in the Dunn & Lewis organization and later took charge of all operations of this firm east of the Mississippi River. He supervised oil-recovery operations in Pennsylvania, Ohio, West Virginia, and Kentucky where he had charge of producing properties of South Penn Oil Co., Hope Gas Co., Associated Producers Co., Tide Water Oil Co., Petroleum Reclamation Co., and Swiss Oil Co. He has been a member of the advisory committee for the research program conducted by Penn State College which is sponsored by Pennsylvania Grade Crude Oil Association. He is now engaged in consulting practice in Tulsa.

copying a neighbor's operating technique than most any other procedure. We are sure, however, more time and money could be profitably spent on study of the problems of one's own properties.

5. *Well spacing.*—Using actual sand cores it can be proved in the laboratory that the number and location of wells drilled in any pool is vital to the efficiency and economy of oil and monetary recovery. (There are two extremes and one proper medium).

6. *Saturation.*—By field and laboratory tests practically accurate saturation of oil-producing reservoirs can be estimated, but there is no method whereby direct readings of sand saturation can be made from core analysis. (This practice is a delusion).

7. By combined field and laboratory tests, sand-pressure gradients, and efficient directional recovery, operations can be established taking into account:

(*a*) Gas-cap repressuring; (*b*) natural water drives; (*c*) stratified permeability arrangements; (*d*) directional permeability variations; (*e*) directional and accumulative shale or lime sealing effects; (*f*) sand thickening; (*g*) cumulative sealing.

Also, many other sand and reservoir characteristics not mentioned above tend to modify any set recovery technique.

8. It can be demonstrated conclusively in the laboratory that there is no means of choosing core samples to be tested as representative of the whole section.

We have tried and found worse than useless the following methods: (1) Inspection; (2) microscopic examination; (3) smoke penetration indications; (4) refractory index; (5) electrical conductivity; (6) magnetic value; (6) pressure-drop indicators; and many others.

The pressure-drop indications were the only ones that did not in some cases give negative results, but it was found to be lacking in so many essentials that it was discarded.

9. By simple demonstration on actual cores it can be shown that the so-called differential shooting applied extensively in recovery is inefficient and damaging to the ultimate recovery of oil.

10. Laboratory tests when combined with properly conducted field tests have been devised which give rather definite indications of the recovery medium which should be used in planned recovery operations and at what time in the life of the pool recovery operations should be applied to get the greatest dollar return.

11. The recovery of oil by gas recycling combined with limited quantities of water injections is a feasible procedure in some sands, and if properly applied will yield startling high dollar recoveries over a long period of application. However, this method of recovery requires a long recovery period with delicately regulated proportions of gas and water injected in cycles in rather definite proportions to the oil, gas, water content of the sand being treated.

Laboratory technique has been devised to show that this method of operation in most cases must be carried out carefully and under strictly regulated gas-flow rates, because under certain conditions of flow with certain oil-water proportions, the recovery from the sand can be damaged beyond repair.

12. The method of applying solvents commercially, successfully and economically to actual sand bodies in connection with gas-recycling recovery operation has been worked out and offers many possibilities.

Laboratory tests were first devised which indicated this procedure was feasible and practicable from a recovery, efficiency, and dollar standpoint. These laboratory tests were confirmed by actual conclusive field recoveries on a comparatively large scale.

Subsequent to the actual field tests extensive laboratory tests were carried out which indicate that under strictly regulated procedures, modified for the specific conditions found to exist in any specific field, practically perfect recovery can be expected from the proper application of this method. It has also been shown that all of the solvent used can be recovered by one of several practical methods. Furthermore, it has been proven that in many cases no outside solvent need ever be used in this operation if the proper operating technique is carried out throughout the life of the property under treatment.

In the mentioned solvent method of oil recovery it is expected that the time required to recover the total recoverable oil from a pool under this method will take longer but that the total recoveries will be from twice to twenty times that to be expected from now-used gas or water-recovery methods. Also that the profits should range from equal to forty times the profits from present-day methods of recovery.

Solvent-recovery methods applied with gas recycling we believe, will produce more oil than could be recovered from efficient mining operations and the dollar returns will be much higher than could be expected from mining or any now known gas or water recovery method.

●

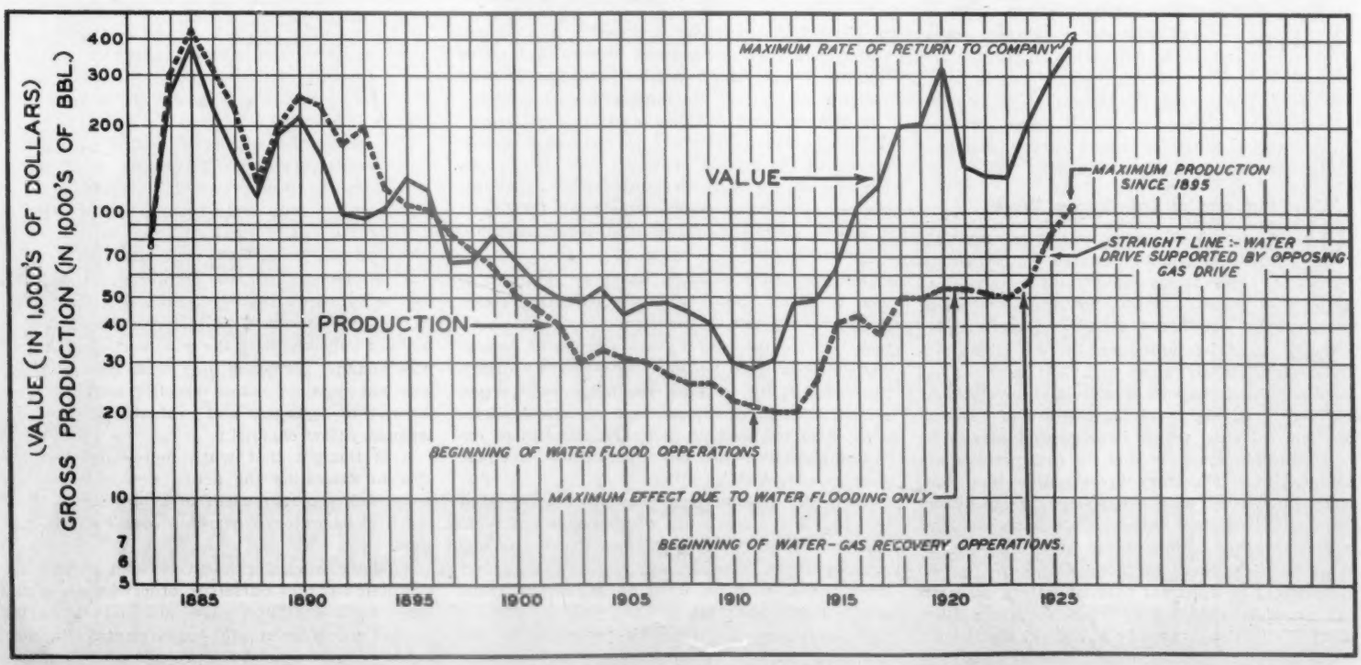
BOOK REVIEW

REGULATION OF PIPE LINES AS COMMON CARRIERS, by William Beard, Assistant Professor of Political Science, University of Wisconsin. $2.

A systematic and comprehensive study of the federal and state regulations of pipe lines as common carriers is offered in this 184-page book. A philosophical and legal background of pipe lines is given with a discussion of the problems involved in attempting to apply ancient concepts of common carriers to modern developments. The author reviews the origin of common carrier legislation, common-carrier status for pipe lines, rate and service regulations, and coordination of pipe lines with other forms of transportation.

Contents: (1) The Field of Interest; (2) Origin of Common-Carrier Legislation; (3) Nature and Extent of Common-Carrier Status for Pipe Lines; (4) Rate Regulation; (5) Service Regulations; (6) Control Over Pipe-Line Affiliations; (7) Coordination of Pipe Lines With Other Forms of Transportation; (8) Summary and Conclusion; Appendix; Bibliography; Index.

Regulation of Pipe Lines as Common Carriers may be purchased through the Book Department of The Oil and Gas Journal at the established retail price of $2, postage prepaid (extra outside the United States), and a copy will be forwarded upon receipt of check or money order for that sum. Where payment is not provided, the book will be sent c.o.d. to avoid delay.



Graph indicates relation of oil production to income of Bingham estate property in the Bradford field of Pennsylvania. Of special significance is the increase in production procured by drilling oil wells between a gas drive and a water drive. Gas injection started in 1925 in wells several locations ahead of line-drive water wells. Several months later a line of oil producers was drilled between the water drive and gas drive; these oil wells were closer to the water-injection wells than to the gas-injection wells

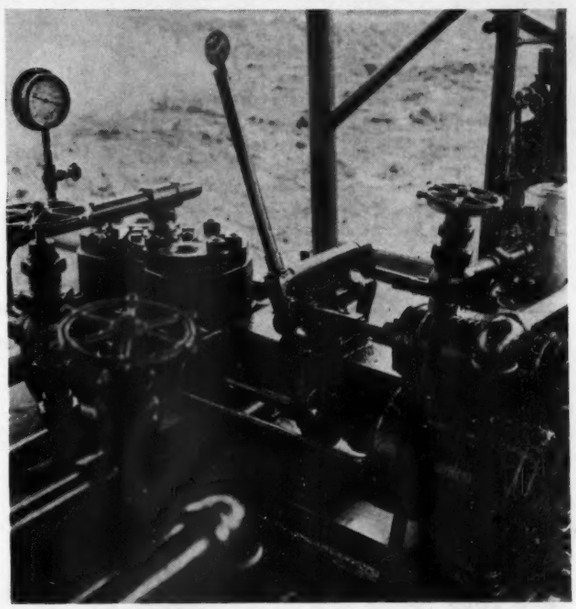
Portable Cattle Guard for Drilling Use

Where access to a site requires protection against straying of stock, some form of cattle guard must be incorporated in the lease fence. One such guard improves much on the usual welded unit in which the pipe roadway members are tack-welded to the stringers. The guard is built up of a number of lengths of scrap 3-in. pipe, their ends welded to holes cut through the webs of 6-in. I-beams. With a complete weld at each end of the pipe, a firm connection, resisting traffic vibration and jars, is secured.

Operating Ideas

Reflector Warns of Pump Stoppage

Motion of the valve mechanism of the boiler-feed pump is nearly always visible from the derrick floor during daylight hours, but where the distance from boilers to rig is considerable, check must be provided to insure warning in case of pump stoppage at night while the fireman is employed on the derrick floor. One fireman rigged a long extension to the rocker arm, and bolted a small red reflector, to the top of the arm. By adjusting the reflector, oscillations of the valve mechanism can readily be observed from the derrick floor.

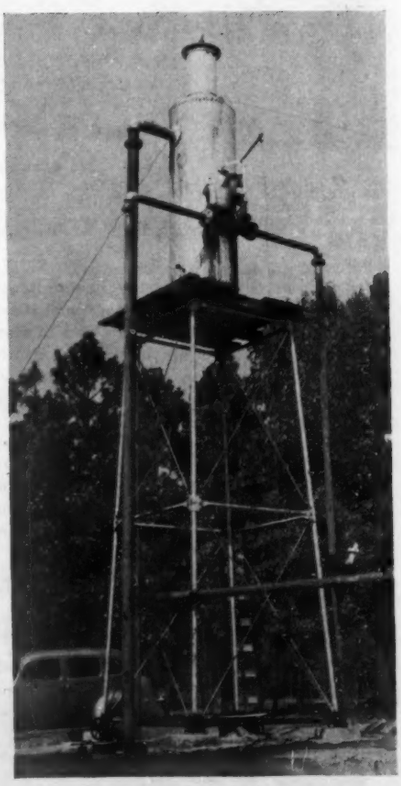


Barrel Used for Bailing Cellars

A crew working over wells in the Oklahoma City field has solved the problem of the oil, mud, and water in the cellars. They took an oil drum and put a bail on the upper end and a tripping line on the bottom. The barrel is handled by the catline on the unit; it takes a little over 30 minutes to bail out the cellar preparatory to taking the connections off the well.

Extension Handle Aids Switcher

Regulation of fluid flow through an elevated separator is simplified and the switcher saved much climbing of the tower ladder by attaching a long wire handle operating the two-way valve and hanging the counterweight on the end of the wire instead of placing it on the actuating lever as is usually the practice. For normal operation the weight holds the valve open to permit standardized flow, but when the other line is to be used and the separator run carried through the heating system, the weight is lifted and supported on the tower structure, the valve then closing and diverting flow through the other line. Such an arrangement leaves the switcher free to handle other valves in his lease hookup, and speeds up operation appreciably.



QUESTIONS ON TECHNOLOGY

Viscosity by Various Instruments

By W. L. NELSON, TECHNICAL EDITOR

In the past 2 years a total of 10 or more items have appeared on this page in answer to queries concerning the relation of viscosity as determined by various instruments, the effect of temperature on viscosity, the viscosity of blends, etc. Two more questions have now been received and hence it appears wise to attempt to clarify the confusion by means of a discussion of the entire subject. Additional material on the viscosity of blends, and the rate of change with temperature, will be published in future issues of The Oil and Gas Journal.

THE fundamental unit of viscosity is the poise or centipoise (1/100 of a poise) which is defined in terms of the force in dynes required to cause slippage of planes of fluid past one another at a specified rate. The definition demands a mechanical arrangement that is not easy to construct or to visualize and hence recourse has been had to a large number of empirical viscosity equipments each of which at its time of development appeared to best meet the purposes for which it was being used. The most popular general type of instrument involves the measurement of time for a fluid to flow through a circular passageway or orifice.

Instruments which involve the time of efflux include the Saybolt instrument that has been used so widely in the United States, the Engler and Redwood instruments which have been used in Europe, Ostwald and similar glass pipettes which have been used for most scientific work, and various instruments for special purposes such as the Marsh funnel for drilling muds, and the Saybolt thermoviscometer for kerosene. The temperatures and quantities used are:

	Quantity
Saybolt Universal	60 ml.
Saybolt Furol	60 ml.
Redwood Standard, No. 1	50 ml.
Redwood Standard, No. 2	50 ml.
Engler	200 ml.
Saybolt Thermo	...
Marsh	quart

In addition a large number of special instruments have been developed for particular purposes. Some of these involve the rate of rise of a bubble of gas, others are devices for measuring the force required for stirring and still others consist of plungers or bearings by which friction is measured.

Attempts to relate the viscosity as expressed by these instruments in seconds, to the absolute viscosity in centipoises, have not been entirely successful. In general, the time should be related to centipoises by equations of the following form:

$$\frac{Z}{S} = AT + \frac{B}{T}$$

In which:

Z = viscosity in centipoises.

S = specific gravity at the same temperature as viscosity.

T = time of flow for instrument.

A&B = constants for each instrument.

This is the source of the numerous equations such as:

For Universal Saybolt:

$$\frac{Z}{S} = 0.22T - \frac{135}{T} \quad \text{(above 100 sec.)}$$

For Universal Furol:

$$\frac{Z}{S} = 2.16T - \frac{60}{T} \quad \text{(above 40 sec.)}$$

For Engler:

$$\frac{Z}{S} = 0.143T - \frac{200}{T} \quad \text{(above 150 sec.)}$$

For Redwood Standard:

$$\frac{Z}{S} = 0.247T - \frac{50}{T} \quad \text{(above 100 sec.)}$$

For Redwood No. 2:

$$\frac{Z}{S} = 2.447T \quad \text{(above 90 sec.)}$$

Great confusion has arisen because different experimenters are continually reporting different and supposedly more correct equations. Several factors tend to create the apparent discrepancy. One of these is the change of specific gravity with temperature—which requires a slightly different equation for each temperature. Furthermore, the rate of change of gravity with temperature is almost uniform with all oils and hence oils whose viscosity changes a different amount with temperature will exhibit different ratios of Z/S. These difficulties, coupled with the fact that the instruments are not exact, has encouraged the adoption of a more accurate type of instrument, namely,

Temperature, °F.	Useful range, centistokes
100, 130, 210	0-225
122, 210	125-600
70, 100, 140, 200, 250	9-1400
32	125-450
70, 122, 210	6-225
60	.....
at well-operating temperature	.....

Ostwald and suspended level viscosity pipettes. These are constructed of glass, they can be thoroughly cleaned, great accuracy can be attained by the use of several sizes of pipettes, and they can be calibrated directly against water, etc., by means of equations of the type given above.

The fact stands that the instruments are not exact nor uniform enough in behavior to justify great concern over the contradictions which appear in the various equations—and if great accuracy is required, the pipette viscometers (A.S.T.M., D445-39T, in Petroleum Products and Lubricants) should be employed. Nevertheless, if approximations for comparative purposes only are adequate the general relationship between the kinematic viscosity (Z/S) and the time by various instruments is given in Table 1. The data are approximations from the A.S.T.M. tables (D446-39 and 1936) and the Institute of Petroleum Technology standardization committee tables.

TABLE 1—VISCOSITIES (APPROX.) BY VARIOUS INSTRUMENTS

Kinematic viscosity Z/S	Saybolt time, sec. Universal	Saybolt time, sec. Furol	Redwood time, sec. Standard No. 1	Redwood time, sec. No. 2	Engler degrees*
4	39.2	....	35.9	....	1.32
6	45.6	....	41.1	....	1.48
8	52.1	....	46.3	....	1.65
10	58.9	....	52.	....	1.84
20	97.7	....	85.7	....	2.88
30	141.2	....	124.4	....	4.08
40	186.0	....	164.3	....	5.36
50	231.8	25.5	204.7	....	6.58
100	462.9	46.9	405	41.7	13.15
200	925.8	92.9	810	81.9	26.3
500	2314.5	231.6	2041	204.3	65.7
1000	4629.0	463.	....	408.5	131.5

*Multiply by seconds for water at 20° C. to get Engler time. For most instruments the time for water ranges from 50 to 52 seconds.

Although single factors have been mentioned by which the viscosity by any instrument can be converted to the viscosity by other instruments, no accurate relationship is evident in Table 1. It should be noted, however, that the Saybolt Furol and Redwood No. 2 viscosities are approximately 10 per cent of the viscosities by the corresponding standard instruments.

Inasmuch as the Saybolt Universal viscosity is used so extensively in this country, Table 2 which is the latest recommendation of the A.S.T.M. (D446-39) for converting Saybolt viscosities to kinematic viscosity, is given in more detail. Even more complete tables may be had from the society headquarters at 260 South Broad Street, Philadelphia, Pa., for 25 cents. A discussion of

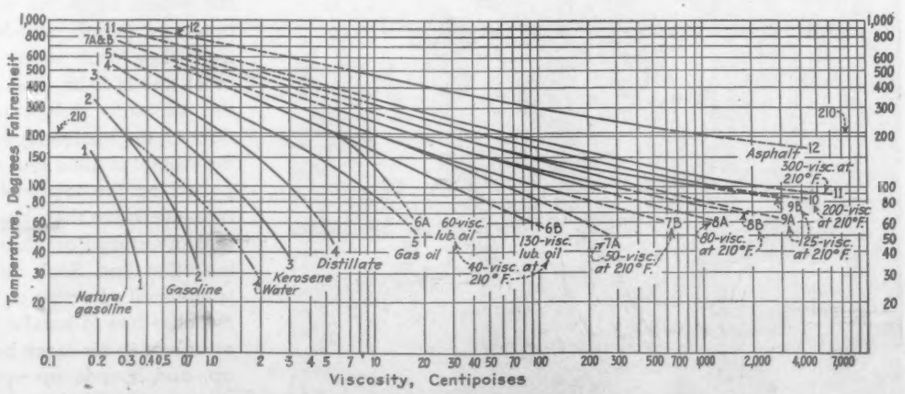


Fig. 1—Viscosities of typical materials as a function of temperatures

TRUE ECONOMY REQUIRES A *Balanced* RIG

An automobile with one make engine, another make body, another make transmission, etc., might have the finest parts in the world, but the maximum in fuel economy, long life, repairless wear, and satisfactory operation would be lacking. If the motor was too heavy for the body, the body would soon be worn out. If the motor was too big for the transmission, either the maximum power could not be used or the transmission would soon be torn to pieces.

The Franks portable skid rig is not just a drawworks to be used with a derrick, pumps, and in some cases power plant purchased elsewhere, with consequent waste capacities due to the fact that one part was not necessarily made for the others.

The Franks skid rig is complete and perfectly balanced with every essential part integral to the unit and properly balanced by proven design to effect the maximum efficiency, fastest rig-up and tear-down, economy, long life and operating ease.

See Franks representatives or write for further details on the 5 SA models.

THE MOST *Complete* SKID RIG FOR MEDIUM DEPTH STANDARD AND DEEP "SLIM-HOLE" DRILLING TO 8,500 FT.

Every essential an integral part of unit including: drawworks; catheads; two or three engine power plant with facilities for compounding to any drive; pump drive including drive pulley and "V" belts; propeller shaft rotary table drive; rotary table; master bushings; drive bushings; slips; derrick with self-contained boom raising device; crown block; stacking board; standpipe; swivel; kelly—all unitized and balanced for economy of operation and fastest rig-up and tear-down.

Drilling unit made in two sections: (1) power plant and (2) drawworks, which are easily and quickly assembled and disassembled. No controls or other vital parts to connect or disconnect. The unit may be moved in one piece for short distances. Derrick may be moved in one piece for short distances or quickly and easily unjointed in two or three sections for longer moves. Unit can be rigged-up and drilling started within three to four hours after reaching location.

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but you just don't fit"

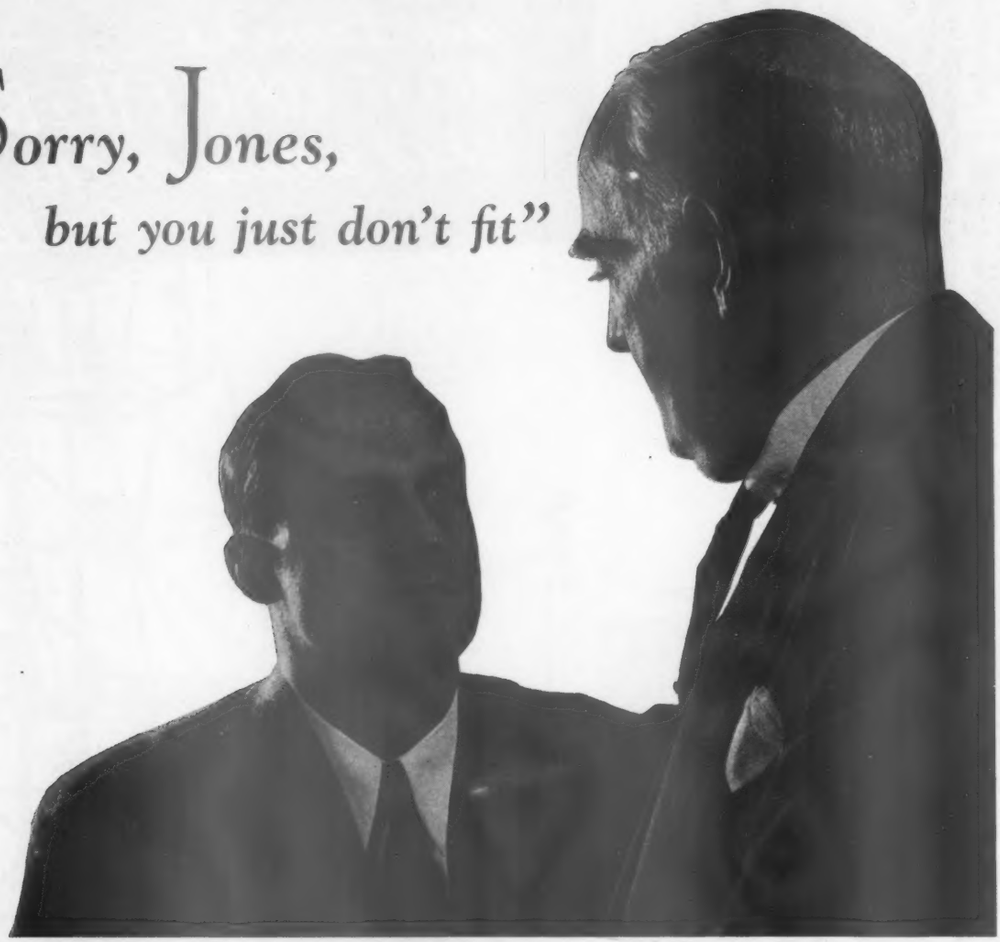

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TABLE 2—VALUES FOR CONVERTING KINEMATIC VISCOSITY TO SAYBOLT UNIVERSAL VISCOSITY (A.S.T.M. D446-39)

Kinematic viscosity centistokes	Equivalent Saybolt Universal viscosity, sec. At 100° F. (basic values see note)	at 130° F.	at 210° F.	Kinematic viscosity centistokes	Equivalent Saybolt Universal vis. sec. At 100° F. (basic values see note)	At 130° F.	At 210° F.
2	32.6	32.7	32.8	31	145.3	145.6	146.3
2.5	34.4	34.5	34.6	32	149.7	150.0	150.7
3	36.0	36.1	36.3	33	154.2	154.5	155.3
3.5	37.6	37.7	37.9	34	158.7	159.0	159.8
4	39.1	39.2	39.4	35	163.2	163.5	164.3
4.5	40.7	40.8	41.0	..	167.7	168.0	168.9
5	42.3	42.4	42.6	..	172.2	172.5	173.4
6	45.5	45.6	45.8	36	176.7	177.0	177.9
7	48.7	48.8	49.0	37	181.2	181.5	182.5
8	52.0	52.1	52.4	38	185.7	186.1	187.0
9	55.4	55.5	55.8	39	190.2	190.6	191.5
10	58.8	58.9	59.2	40	194.7	195.1	196.1
11	62.3	62.4	62.7	41	199.2	199.6	200.6
12	65.9	66.0	66.4	42	203.8	204.2	205.2
13	69.6	69.7	70.1	43	208.4	208.8	209.9
14	73.4	73.5	73.9	44	213.0	213.4	214.5
15	77.2	77.3	77.7	45	217.6	218.0	219.1
16	81.1	81.3	81.7	46	222.2	222.6	223.8
17	85.1	85.3	85.7	47	226.8	227.2	228.4
18	89.2	89.4	89.8	48	231.4	231.8	233.0
19	93.3	93.5	94.0	49	254.4	254.9	256.2
20	97.5	97.7	98.2	50	277.4	277.9	279.3
21	101.7	101.9	102.4	55	300.4	301.0	302.5
22	106.0	106.2	106.7	60	323.4	324.0	325.7
23	110.3	110.5	111.1	65	Saybolt seconds = centistokes × 4.620	Saybolt seconds = centistokes × 4.629	Saybolt seconds = centistokes × 4.652
24	114.6	114.8	115.4	70			
25	118.9	119.1	119.7	..			
26	123.3	123.5	124.2	Over 70			
27	127.7	127.9	128.6	..			
28	132.1	132.4	133.0	..			
29	136.5	136.8	137.5	..			
30	140.9	141.2	141.9	..			

Note.—To obtain the Universal Saybolt viscosity equivalent to a kinematic viscosity determined at $t°$ F. multiply the equivalent Saybolt Universal viscosity at 100° F. by $1 + (t - 100)\ 0.000064$; for example 10 centistokes at 210° F. are equivalent to 58.8 × 1.0070 or 59.2 Saybolt Universal seconds at 210° F.

Table 2 is given by Headington and Geniesse.[4]

Viscosity Terms

The absolute viscosity (*Z* designates centipoises) in poises or centipoises is nearly always used in connection with specific gravity (*S*) and hence the ratio of *Z*/*S* is given a special name and is referred to as the kinematic viscosity. The unit of kinematic viscosity is the stoke and the centistoke (1/100 of a stoke).

The term fluidity is used to designate the ease of flow as the opposite of the difficulty of flow (viscosity). Fluidity is used as the reciprocal of viscosity or as 1 divided by viscosity. Its chief use is in estimating the viscosity of blends. The fluidity of a blend is approximately proportional to the weighted average fluidities of the components in the blend.

The conversion of absolute and kinematic viscosity to other fundamental units is indicated in the following tabulations:

Factors for absolute viscosity.

	g./cm. sec.	kg./m. hr.	lb./ft. sec.
1 poise = 1 g./cm.sec. = 1 dyne sec./cm.²	1.0	360	0.0672
1 kg./m. sec. = 1 kilodyne hr./m.²	0.002778	1.0	0.0001867
1 lb./ft. sec. = 1 poundal sec./ft.²	14.88	5,327	1.0

Factors for kinematic viscosity.

	cm.²/sec.	m.²/hr.	ft.²/sec.
1 cm.²/sec. = 1 stoke	1.0	0.36	0.0010764
1 m.²/hr	2.778	1.0	0.002990
1 ft.²/sec.	929.0	334.45	1.0

Various specific questions have been answered on this page during the past 2 years. They are as follows: March 23, 1939, Chart for Estimating Viscosity of Petroleum Oil Blends. May 18, 1939. . . . Engler Viscosities and Small Volume Tests. May 25, 1939, Factors for Changing Viscosities at Same Temperature (Approx.). July 13, 1939, Universal and Furol Viscosities at Different Temperatures. March 28, 1940, Centipoise Viscosity of Kerosene Changes With Temperatures. April 4, 1940, No Definite Relationship Between Viscosity and Gravity. August 22, 1940, Viscosity Index of Lubricating Oil Blends. November 21, 1940, Estimating Oil Viscosity at Zero Degrees. March 27, 1941, Units of Viscosity. March 27, 1941, Stormer and Other Viscosity Units.

Fig. 1 which is taken from Petroleum Refinery Engineering, McGraw-Hill, indicates the kinematic viscosities of typical petroleum products.

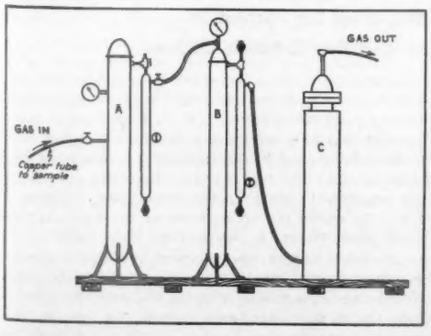
References

1. A.S.T.M. Standards on Petroleum Products and Lubricants, Am. Soc. for Testing Materials, 260 South Broad Street, Philadelphia, Pa.
2. Garner, Broom and Taylor, J. Inst. Pet. Tech., 22 p. 11 (1936); also the 1935 standards of the institute.
3. Editor Dunstan, Science of Petroleum, Vol. 2, p. 1071, 1938.
4. Headington and Geniesse, Proc. A.S.T.M., Vol. 37, Part 1, p. 380 (1937).

•

Mobile Unit for Field Testing Of Gas-Condensate Yield

THE mobile testing unit pictured is designed for rapid field determinations of the condensate yield from high-pressure gas-condensate wells. Equipped to withstand high pressures, it provides a simple test run at the well, as a preliminary evaluation of a gas-condensate well's yield performance, under varying pressures and flow rates.



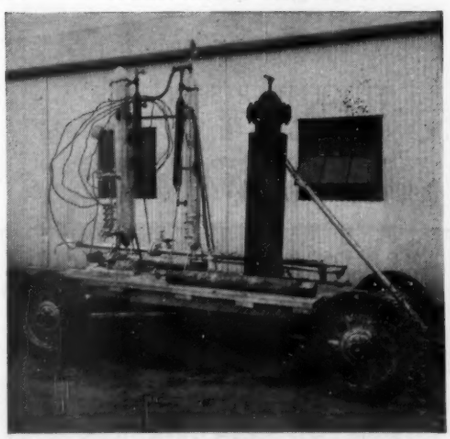
Simplified diagram of apparatus used in the testing unit, showing flow of gas

As outlined in the chart, the sample of gas enters high-pressure separator *A*. This primary vessel operates at well-head pressure. Gas passed overhead from the primary vessel is throttled to atmospheric pressure and passed to the secondary separator *B*, where the reduction in pressure and temperature results in further condensation of hydrocarbon liquid. The fraction of liquefiable hydrocarbons remaining in the overhead gas from the secondary separator is determined by passing the gas through the 1-cu. ft. activated-charcoal tube *C*.

The liquid accumulated in *A* is flashed to atmospheric and combined with liquid from *B* and the fraction removed from *C* by steam, to give the total liquid condensate fraction in the gas stream. The gas is measured in a small meter run.

Both separators are equipped with pressure gages, and the high-pressure vessel has attached a high-pressure gage glass, facilitating visual observation of the liquid level in the accumulator section at its base. To prevent freezing in the expansion valves from *A* and *B*, liquid pots containing alcohol are provided. Since under ordinary operation the secondary separator operates at atmospheric pressure, the second pot is not used.

Salt-water determinations can be made from accumulation in the primary separator. The gas stream entering the unit is the familiar representative sample obtained through a sampling tube extending into the well to a point beyond turbulent flow. The area of the intake end of the tube is in the same ratio to the area of the tubing that the rate of flow into the testing unit is to the total well-flow rate. Connection to the unit is made with flexible copper tubing.



Trailer-mounted unit for testing condensate yield for gas from high-pressure wells

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Pipe-Line Activity

Six Plans Proposed for Line From Southwest to East Coast

Virtually every major oil-producing section of the southwest last week was vigorously urging a different route for a new pipe line to relieve the threatened shortage of petroleum products on the eastern seaboard. Most of the proposals were discussed at a meeting in Washington of representatives of the industry with Deputy Oil Coordinator Ralph K. Davies, but no decision was reached (see Page 21). Secretary of Interior Harold L. Ickes, petroleum coordinator for national defense, is expected to recommend a specific route sometime this week, however.

Difference of opinion as to where the new line should be laid was due largely to a desire on the part of the various sections to have it run close enough to their production to assure a market.

Producers in Texas and Louisiana were urging a line from East Texas to the seaboard, generally running through the southeastern section of the country. Mid-Continent producers, however, insisted that the line start farther west and extend through Oklahoma and Illinois to the East. Particularly outspoken were Kansas producers who urged the second route which would enable them to connect with it at St. Louis. Texas Panhandle and West Texas groups also bid for a line serving those areas.

Some Favor Products Line

Divergence of opinion also developed on the size of the lines, operating locations and the question of whether they should carry crude or refined products. Six concrete proposals were discussed at the meeting in Washington, and one of them is expected to be recommended by the secretary of interior. They were:

1. An 18-in. crude line from East Texas to New York with a branch to Philadelphia, 1,400 miles long, with a daily capacity of 135,000 bbl. and to cost $45,500,000. Estimated completion time is 9 months.

2. An 18-in. crude line from East Texas to St. Louis Junction where it would connect with a 24-in. crude line to New York with a branch to Philadelphia. The 24-in. line, which would be 900 miles long, would have a daily capacity of 250,000 bbl. and cost $43,000,000. The 18-in. line, 600 miles long, would have a daily capacity of 135,000 bbl. and would cost $19,500,000. Existing lines from the producing areas to St. Louis Junction apparently have sufficient excess capacity to provide the additional crude required to feed the large line from that point to New York.

3. A 20-in. refined products line from Gulf Coast refineries to New York with a branch to Philadelphia, via Memphis-Morgantown. This line, 1,500 miles long, would have a daily capacity of 225,000 bbl. and would cost $68,000,000. Estimated completion time is 9 months. An additional investment would be required to cover the cost of supply lines from Gulf Coast refineries.

4. A 24-in. crude line from East Texas oil fields, also via Memphis-Morgantown, to New York with a branch to Philadelphia. To be 1,400 miles long, it would have a daily capacity of 250,000 bbl. and would cost $70,000,000. Estimated completion time is 12 months.

5. A 12-in. crude line from Lima, Ohio, to New York with a branch to Philadelphia. This line, 700 miles long, would have a daily capacity of 60,000 bbl. and would cost $14,700,000. Substantial expenditures on the part of Indiana Pipe Line Co. and Texas-Empire Pipe Line Co. would be required under this proposal. Estimated completion time is 7 months.

6. A 16-in. crude line from St. Louis to New York with a branch to Philadelphia, 950 miles long, with a daily capacity of 115,000 bbl. and to cost $25,000,000. Estimated completion time is 8 months.

Cost of these various projects covers both the line and pumping stations. The estimated completion time is based on the assumption that priorities on pipe and equipment, and full clearance of rights-of-way, could be obtained promptly.

The original plans for the major lines proposed by the committee set up by the American Petroleum Institute contemplated a crude line of 24-in. diameter from East Texas to Marcus Hook and Bayonne, and a parallel line from Baton Rouge and Shreveport to handle refined products.

Whether Mr. Davies will change this plan, in view of the objections raised at the Thursday meeting, was not clear, although it is expected that there will at least by some minor alterations.

Los Angeles Denies Franchise For Crude Line to Wilmington

LOS ANGELES, Calif.—Shell Oil Co., Inc., last week had to change the route laid out for a proposed crude-oil pipe line from the Ventura Avenue field to the Wilmington refinery at Los Angeles Harbor. The change was made necessary by a refusal of the Los Angeles City Council to grant a franchise for construction of the line which was to have followed Sepulveda Boulevard for much of its extent within the city limits.

Shell at present has a natural-gasoline pipe line extending from the same field to Wilmington.

Contracts Awarded for Looping Project on Tulsa-to-Dublin Line

The Gulf Oil Corp. last week awarded contracts for the laying of 13 loops on its 10-in. pipe line from Jenks, south of Tulsa, to Dublin, Ind., from which point the artery diverts to serve refineries at Cincinnati, Toledo, and Pittsburgh.

Williams Brothers Corp., of Tulsa, and Jones & Brooks, Inc., of Tulsa and Dallas, and the B & M Construction Co. of Oklahoma City, landed the job which will commence early in July.

The three loops in Oklahoma will be laid by Williams Brothers Corp., and four in Missouri will be by the B & M Construction Co., while Jones & Brooks, Inc., will construct the six remaining loops in Illinois and Indiana.

Defense Project Forces Moving Oil Pipe Line

Construction of a national-defense project by the Government near Wentzville, Mo., made it necessary for the Ajax Pipe Line Co. to start moving 13 miles of its pipe-line system near that town. The system, consisting of two 10-in. lines, will be moved, in the center of the 13-mile stretch, a distance of about 4 miles, to be routed like an arc around the site of the defense project. Also being moved to the center of the arc, a distance of 4 miles, is the Hamburg pumping station on the line, it being the first station southwest of the line's terminal at St. Louis. The line extends from Jenks, Okla., to St. Louis, Mo.

While no details were made available as to the nature of the projects the Government is to build at Wentzville, it was reported that a powder plant is to be erected there.

The taking up and relocating of the double line is similar to a requirement forced on owners of several crude-oil lines near Joliet, in northern Illinois. A powder plant is now under construction near where five lines formerly ran.

Bids Called for Plantation Line and Key Officials Chosen

Two steps were taken last week to speed up the actual laying of the Plantation pipe line between Baton Rouge, La., and Greensboro, N. C. In New York, it was announced that bids for the laying and welding of the line would be opened in the Plantation company office in Atlanta, Ga., on July 11 and that the contracts would probably be awarded the same week. Construction will be under the supervision of the engineering firm of Ford, Bacon & Davis, Inc., New York.

At the same time it was revealed in Tulsa a group of pipe-line experts would assist the Standard Oil Co. of New Jersey, the Shell-Union Oil Co., and the Standard Oil Co. of Kentucky, coowners of the line, in directing the construction.

Loaned by the Oklahoma Pipe Line Co. of Tulsa were F. E. Warterfield, Jr., chief engineer; Ralph Wil-

Pipe-Line Personalities . . . . . J. L. Latimer

J. L. LATIMER

There is an adage that says "a guide can't take another successfully where he has not been himself." If this be true, J. L. Latimer, vice president and manager, Magnolia Pipe Line Co. since 1938, should be (and is) a real guide for all those in his organization, for he has had practical experience and personal participation in every type of job in the industry.

On December 1, 1915, Mr. Latimer, then a young man of 18 years, took his first job in the pipe-line profession he had chosen for himself, as a helper on tank-car racks in the Thrall field. In 1917 he was made engineer at Addington, Okla., station, then gager in the Shamrock field of the Texas Panhandle.

The World War interrupted his pipe-line work when he volunteered for service in the U. S. Navy. After his discharge from the Navy Mr. Latimer reported for work again with the Magnolia company in the Ranger field of West Central Texas. Promotions have been earned since then through all the ranks in the industry—to district superintendent, general superintendent, and assistant manager, to which post he was appointed on March 1, 1937. In April of 1938 he was made vice president and manager of pipe lines, a position he occupies at present.

He was also elected a director of the Magnolia Pipe Line Co. and the Magnolia Petroleum Co. Among his many other duties, Mr. Latimer has since 1938 directed the building of more than 1,300 miles of new pipe-line construction. Except for the period he spent in the Navy during the World War, Mr. Latimer's entire business life—nearly 26 years—has been spent with the Magnolia companies.

kiemeyer, pipe line accountant, and Dallas T. Luttes, civil engineer. Loaned by Ajax Pipe Line Corp., also in Tulsa, was S. V. Kane, secretary-treasurer. The group went to Meridian, Miss., where they are opening construction offices for Plantation. In addition, A. H. Weisgerber, a former vice president of Ajax and now in the transportation division offices of the Standard of New Jersey in New York City, was transferred to Meridian.

Work on the line already has started despite the fact that it will extend across the State of Georgia and that that state has refused to grant rights-of-way to pipe-line companies. However, the Cole bill, giving the federal Government and pipe-line companies constructing lines for defense purposes, the right of eminent domain has been adopted by the House and is expected to be passed by the Senate and signed by President Roosevelt soon.

Deliveries of pipe for the line, pipe having been ordered some time ago, are expected to start early in July and the line is to be completed and placed in operation by January 1, 1942. Plans call for 1,261 miles of 10-in. pipe which will have a capacity, as stated some time ago by an official of Standard of New Jersey, of 72,000 bbl. of gasoline a day.

Texas Co. to Build Gas Line From Salem to Lawrenceville

Officials of the Texas Co. last week were reported completing plans for a 6⅝-in. natural-gas line which would carry residue gas from the Salem field, in Marion County, Illinois, to the company's refinery at Lawrenceville, Ill., where it would be used for fuel.

Extensive Construction of Crude Pipe Lines Under Way in Kansas

Northern Mid-Continent field pipe-line construction, particularly in and from Kansas is increasing and includes many projects, both actual and projected.

Most ambitious of the plans is that urged on the federal petroleum coordinator by Andrew Schoeppel of the state Corporation Commission. This would include a new line from St. Louis east to the seaboard and tie it in at St. Louis with present lines stepped up with new booster pumping stations, the combined plan to increase movement of Kansas crude by 75,000 bbl. daily.

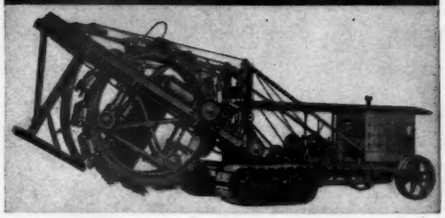
Kaw Pipe Line Co (Texas Co., Cities Service and Phillips) is preparing specifications for a 30-mile extension of its 10-in. line from Chase, Rice County, to Susank, in Barton County, where it ties in with an 8-in. line into Russell and Ellis counties, all in western Kansas. Pipe has been ordered but it may be October before the pipe is delivered.

White Eagle division, Socony-Vacuum Oil Co., Inc., is replacing 23 miles of 10-in. line from Chase to Valley Center, tieing in with the main artery to its Augusta refinery.

Skelly Oil Co. has asked for bids on its 33-mile 6-in. extension from Barton into Russell County.

Phillips Petroleum Co. is replacing 5½ miles of its 6-in. line near McPherson, in that county.

Buckeyes Have the "Guts"



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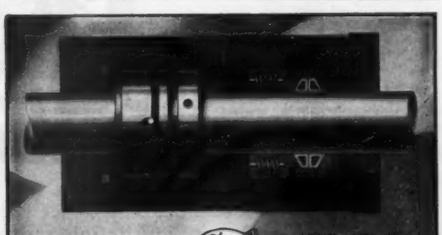

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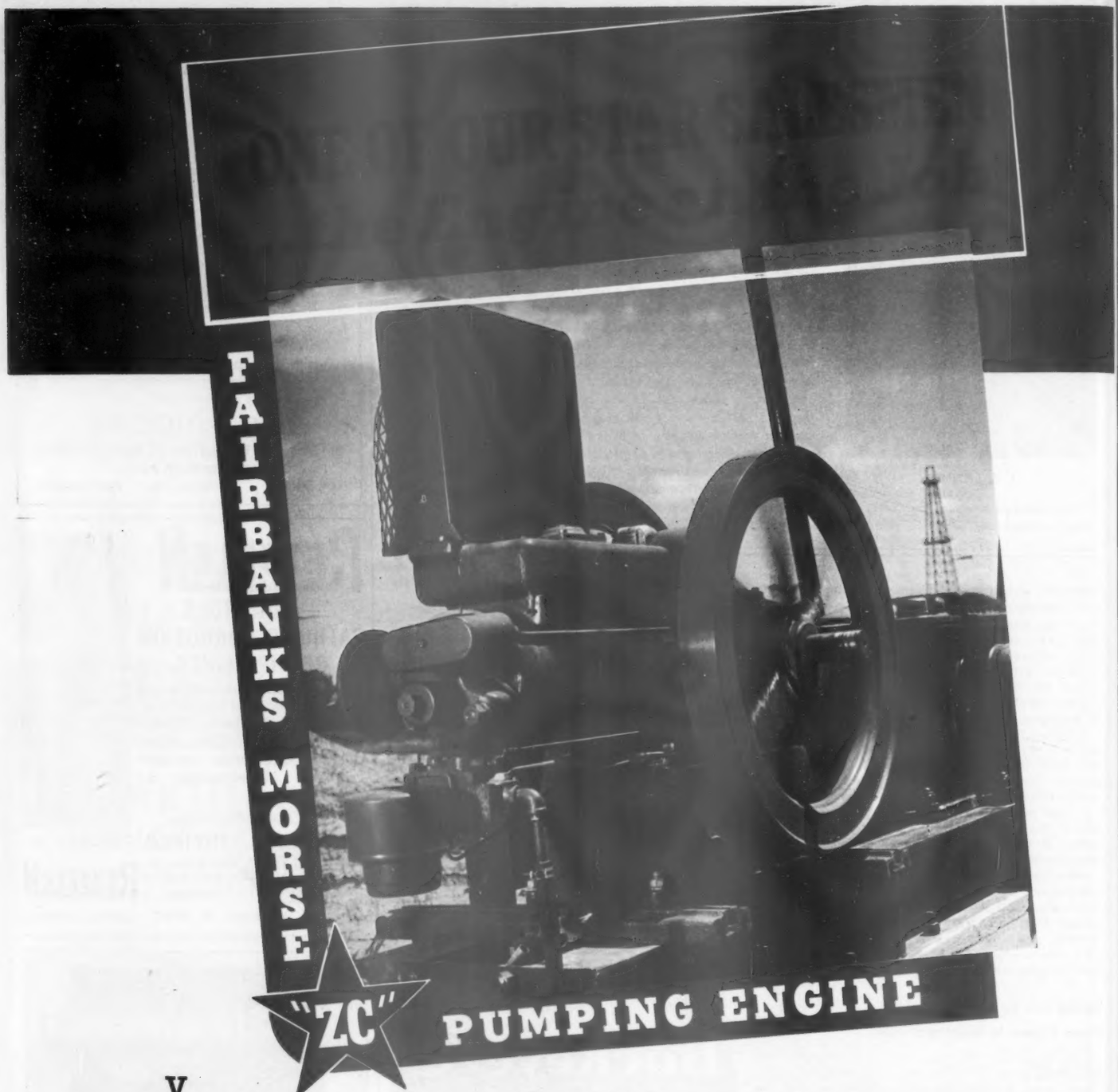

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FIELD DEVELOPMENTS...

HIGHLIGHTS FROM THE WEEK'S NEWS—

Last week was the fourth in succession in which more than 600 wells were completed in the nation and all signs pointed to a continued high rate of drilling. Wildcatting in nearly all areas was meeting with success and development of these new reserves was expected to keep operators busy. The 634 completions—up 3 from the previous week—brought the total for the year to within 126 of the total a year ago.

WEST TEXAS: New discoveries were in the testing stages 2¼ miles west of the north end of production in the Estes field of Ward County and in northern Pecos County east of the deep Abell field. The Pecos County test was showing from a new shallow Permian lime zone (p. 70).

MICHIGAN: Interest in the basin area was revived by a wildcat which blew wild flowing more than 2,000 bbl. a day in Roscommon County near the Clare County line, about 15 miles from production at West Branch and the old Buckeye field. It looked like the second major strike for the state within a month as the three wells at the new Reed City pool kept a steady flow (p. 73).

ILLINOIS: Drilling in areas outside of Salem continued the uptrend and operations reached a new high for the year. Of the scattered wildcats, three in the Centralia area were showing for new production. Rumors in the Louden field had it that Carter Oil Co. was planning a deepening campaign to the Trenton or the St. Peter (p. 68).

WYOMING: Negotiations for formation of a Salt Creek unit, expected to take several months, were under way. A wildcat southeast of Lance Creek had another show of wet gas in the upper Sundance and looked favorable for a discovery (p. 57).

TEXAS GULF COAST: An outpost nearly a mile south of the discovery well of the Lake Creek field, Montgomery County, was in the testing stage with promise of proving production. A south outpost in the Segno field, Polk County, looked as though it would make a producer from the deep Wilcox zone (p. 59).

LOUISIANA GULF COAST: An extensive one-operator wildcatting program in Orleans Parish appeared to be paying off last week after a blowout of a well drilling at about 9,985 ft. If the well is completed for a producer, it will be the first in the parish. Prolific production was opened on the Bayou Sale prospect, St. Mary Parish, by one of the best wells to be completed in the district (p. 64).

NORTH TEXAS: Search for Mississippian lime pay was rewarded with the sixth producing wildcat in that zone this year—an average of one a month. Newest discovery was in northwestern Jack County on the southeastern flank of the Bend arch on which four of the six new pools have been found. A new deep pool from 4,860 ft. was expected in central Young County (p. 54).

ARKANSAS: Operations were resumed at a Columbia County test, now bottomed at 8,798 ft., which had a good show of oil in the Cotton Valley formation. The well was deepened to test the Smackover lime, but has not yet topped that zone. A new location in McKamie, Lafayette County, was unitized after several weeks of negotiations (p. 50).

KANSAS: Operators in the state who have brought production to a new high are now concerned about pipe-line outlets. While new lines are being built within the state, there was agitation to have the proposed crude line from the Southwest to the Atlantic seaboard routed through Missouri and Illinois to provide a Kansas connection at St. Louis. Pool extension continued and new pools were opened in Stafford and Elk counties (p. 48).

OKLAHOMA: Three new pools were opened in the Greater Seminole area, one of them a Wilcox pool in the St. Louis district. Spacing orders and casing rules were set up by the state Corporation Commission for the new Apache pool in Caddo County and two offsets to the discovery, where a wild gas seepage was finally sealed off, were started. Five offsets were scheduled to start at once at the Otoe pool in Noble County, revived last week by discovery of Wilcox production (p. 52).

NORTH LOUISIANA: The Wilcox trend play, heightened by completion of a good producer at the new Walters discovery and another new strike in Avoyelles Parish still farther south, showed signs of linking La Salle to the southern area. Two other Wilcox trend tests were showing possibilities of production (p. 50).

EASTERN TEXAS: First oil production for the Willow Springs gas and distillate field in Gregg County was opened by two wells being completed on the southwest side. At the same time an outpost ¼ mile northeast of the field indicated an extension of the gas pay and plans were reported for a $300,000 recycling plant and a new pipe-line outlet. Seventeen new locations were staked in the Laneville Woodbine sand pool in Rusk County making that area one of the most active in East Texas (p. 63).

WEST VIRGINIA: A third test in the Ravenswood district, Jackson County, is running high compared with previous tests, one of which was brought in as a large gas well and the other as a combination oil and gas well (p. 62).

NEBRASKA: Ohio Oil Co. completed the second deep Hunton lime zone well in the Falls City pool for a 1,920-bbl. potential, the largest well yet completed in the pool. An immediate deepening program was not expected, but new wells probably will be drilled to the deeper zone to be plugged back later (p. 48).

CALIFORNIA: After 2 years in which new field discoveries have been rare, three wildcats opened new production and at least one was sure to bring in a new field. Raisin City, where production was found by Shell Oil Co., Inc., recently, had its second well and the old saying that no commercial oil would be found east of the Santa Ana River in Orange County or north of Coalinga in Fresno County was disproved. The other two tests confirmed the value of previous discoveries at Oak Canyon and San Martinez (p. 65).

SOUTHWEST TEXAS: Gas distillate production was opened from a new and deeper sand section in the Woodsboro field, Refugio County, and a new pool was opened in McMullen County. Extensions were made to both Aqua Dulce and Chapman Ranch fields (p. 72).

COMPLETIONS IN ALL FIELDS . . .

(Week Ended June 28, 1941)

	Oil	*Gas	Dry	Total	1941 total comp. to date	1940 total comp. to date
N. Y., Pa., and W. Va.	92	16	0	108	2,638	2,316
Ohio	11	18	13	42	774	626
Kentucky	2	2	2	6	333	234
Indiana	1	1	5	7	223	175
Illinois	61	0	23	84	1,619	1,713
Michigan	4	2	11	17	413	595
Kansas	43	0	18	61	939	835
Nebraska	1	0	2	3	45	6
Missouri, Iowa	0	0	0	0	9	14
Oklahoma	24	2	12	38	751	890
Texas:						
North Central Texas	29	1	21	51	1,419	1,533
West Texas	44	1	2	47	1,003	1,039
Texas Panhandle	12	0	0	12	260	303
East Texas	14	1	4	19	563	317
Texas Gulf Coast	18	0	3	21	534	645
Southwest Texas	16	2	13	31	869	1,068
Total Texas	133	5	43	181	4,648	4,905
North Louisiana	9	1	1	11	294	307
Louisiana Gulf Coast	16	0	11	27	439	510
Total Louisiana	25	1	12	38	733	817
Arkansas	1	2	3	6	89	84
Mississippi and Southeast	9	0	1	10	129	98
Montana	1	0	2	3	122	97
Wyoming	2	0	1	3	68	74
Colorado, Utah	1	0	0	1	19	7
New Mexico	5	0	1	6	233	380
California	15	1	4	20	514	559
Total United States	431	50	153	634	14,299	14,425
Total previous week	428	53	138	619		
Week ended June 29, 1940	427	35	115	577		

Operators Seek Pipe-Line Outlet; Two Pools Opened

By ROBERT INGRAM

KANSAS operators, with production up to record highs and nominations by purchasers steadily climbing, last week put in a bid for major pipe-line connections with the east which they hoped would permit relaxation of the state's strict proration (see Page 44). Steps were already under way to expand local lines so that carrying capacity would be upped from 235,000 bbl. a day to more than 270,000 bbl., but even this expansion was not enough to allow full production of wells now on the pump much less to keep pace with the 30-40 new wells being brought in every week.

At a meeting of Kansas oil men in Wichita last week, Dee R. Lauck, president of the Kansas Independent Oil and Gas Association, added national defense as an argument for crude connections.

"Eastern refineries want crude oil," he said, "and our own refineries are operating at 90 per cent of crude oil capacity. So it appears our contribution to the defense program will be in the form of crude rather than refined products."

He added that the state could produce about 400,000 bbl. a day without waste in contrast with the current production allowable of 230,000 bbl. a day and the July allowable (a new high) of 237,400 bbl. Lauck's estimate of the state's capacity to produce was higher than similar estimates of a month ago, but was supported by the number of completions since then and the active drilling campaign throughout the state. Theo A. Morgan, conservation director at Wichita, also upped his estimate of the state's capacity from 350,000 bbl. a day as of a month ago to 400,000 bbl. last week. Mr. Morgan told the Corporation Commission that "most of the wells could make their allowable in much less than one-fourth of the monthly period."

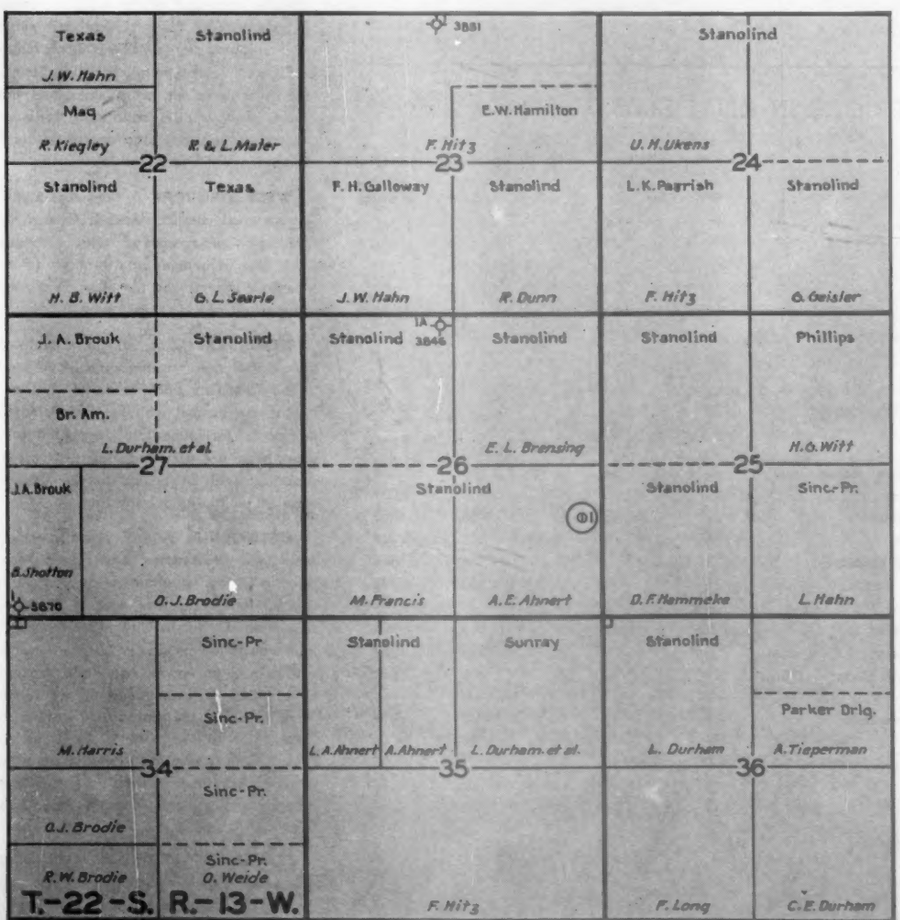
SUMMARY OF COMPLETIONS

Kansas

	No.	Bbl.	Footage
Oil wells: Coralena-Trapp	6	5,766	19,017
Greenvale and W. Greenvale	2	3,747	6,245
Hall-Gurney	3	3,920	9,223
Silica	1	34	3,921
Stoltenberg	1	1,886	3,339
Zenith	2	2,117	7,664
Other fields	27	23,715	87,579
Wildcats	1	15	1,201
Dry holes: Fields	11	.....	32,695
Wildcats	7	.....	21,584
Total	61	.....	192,468

Nebraska

	No.	Bbl.	Footage
Oil wells: Falls City	1	1,920	2,285
Dry holes: Wildcats	2	.....	6,077
Total	3	.....	8,362



Midcontinent Map Co., Tulsa

Stanolind Oil & Gas Co., one of the most active operators in Stafford County, Kansas, has opened another new pool there with Stanolind 1 Ahnert, circled above in E½ NE SE 26-22-13w. The well was still testing last week after swabbing 4 bbl. of 28-gravity oil an hour on early tests

Four Pools Extended by Tests In Barton and Russell Counties

Drilling, meantime, continued to be concentrated in proven areas and much of the wildcat drilling was for extensions to old pools.

Last week four wells were classed as extending pools in various parts of the state. Phil-Han Oil Co. 1 Kirmer, semiwildcat in N½ NW NW 8-17-11w, Barton County, was given a potential of 1,767 bbl. a day from the Arbuckle dolomite at 3,370 ft. to extend the Kraft pool ¾ mile to the northwest.

Lauck & Moncrief 1 Oeser, semiwildcat in SE SE 25-17-12w, also in Barton County, was given a potential of 311 bbl. and probably is a ¾-mile extension to the north of the Beaver pool. Production was from the Topeka lime at 2,990 ft.

Vickers Petroleum Co. 1 Morgan, S½ SE NW 22-16-12w, Barton County, ¾ mile southeast of the Beaver pool, received a potential of 47 bbl. a day from Arbuckle dolomite at 3,372 ft.

H. H. Blair 1 Foster, SE SE 33-15-11w, Russell County, was showing for a mile west extension of the Dubuque pool, or possibly a well that would connect Dubuque with North Beaver which is a mile south of the new discovery. Operators reported a fillup from the Lansing-Kansas City lime at 2,995-3,005 ft. and were testing at week's end.

Pools Opened in Stafford And Elk Counties

Elk County, in eastern Kansas, had a new pool last week after the completion of McPherson 1-A Batesman, SE SW NW 24-28-11e, for 15 bbl. of oil a day and an estimated 1,000,000 cu. ft. of gas from the Kansas City lime at 1,098 ft. Nearest production was the Severy pool in Greenwood County about 3 miles northwest.

Also classed as a pool opener, although not yet completed, was Stanolind 1 Ahnert, E½ NE SE 26-22-13w, in Stafford County (see map). The nomenclature committee named the new pool Ahnert. At week's end the well was testing the Arbuckle dolomite which had filled 700 ft. with 28-gravity oil in 5 hours and after acid treatment swabbed 15 bbl. an hour.

KANSAS COMPLETIONS

Wildcats

McPherson et al 1-A Batesman SE SW NW 24-28-11e Est. 15 bbl. per day, Kansas City 1,098 ft., pay 1,201 ft., T.D. 1,202 ft., acid, est. 1,000,000 cu. ft. gas, *pool opener*, Elk County.

Derby Oil 1 Gernon.....W½ SW NE 20-13-15w Dry, T.D. 3,311 ft., spotted stain, anhydrite 905 ft., Arbuckle 3,289 ft., Russell County.

Derby Oil 1 Dreiling.....W½ SW NW 34-13-17w Dry, T.D. 3,577 ft., Fort Riley 2,065 ft., base Kansas City 3,475 ft., Sooy 3,531-77 ft., Ellis County.

Cities Service 2 Padlena.....SE NW SE 26-14-10w Dry, T.D. 3,236 ft., Arbuckle 3,229 ft., 4-in. 2,920 ft., Ellsworth County.

Cities Service 1 Stoppel .....NW NE SW 17-14-11w Dry, T.D. 3,205 ft., anhydrite 500 ft., Arbuckle 3,188 ft., Russell County.

Holl et al 1 Faulkerson.....W½ NW NW 2-20-4e Dry, T.D. 2,583 ft., Mississippi lime 2,260 ft., at 2,300 ft. some show oil, Marion County.

Anderson Prichard 1 Yeo.....S½ SW NW 29-20-10w Drv. T.D. 3,304 ft., anhydrite 389 ft., Arbuckle 3,299-3,302 ft., some show oil, Rice County.

Magnolia 1 Banta.....S½ SE NE 26-30-5w Dry, T.D. 4,774 ft., base Mississippi 4,475 ft., Wilcox 4,606 ft., Arbuckle 4,714-74 ft., Kingman County.

Fields

Augusta, Butler County: Pitts 1 Cunningham, NE NE SE 16-28-4e, dry, T.D. 2,194 ft.

Beaver, Barton County: Vickers 1 Morgan, S½ SE NW 22-16-12w, 47 bbl., Arbuckle 3,372 ft.
Pryor & Lockhart 1 J. P. Mans, W½ SW NE 9-16-12w, dry, T.D. 3,428 ft.

Bemis, Ellis County: Cities Service 25-A Colahan, E½ NE NE 24-11-17w, 245 bbl., Arbuckle, T.D. 3,416 ft.

Big Creek, Russell County: Palmer 2 Waudby, S½ NE NW 26-14-15w, 1,221 bbl., Gorham, T.D. 3,186 ft.

Bowman, Rice County: Sharon 1 Heyne, W½ NW SE 21-19-10w, swabbed 45 bbl., Arbuckle, T.D. 3,301 ft.

Brandt, Butler County: Adair & Morton 2 Sawyer, NE SE SW 10-28-7e, 740 bbl., Mississippi lime, T.D. 2,805 ft.
Adair & Morton 4 Cannon, SW NE NW 15-28-7e, dry, T.D. 3,190 ft.

Breford, Barton County: Transwestern 1 Ehler, E½ SE SW 12-17-11w, dry, T.D. 3,374 ft.
Transwestern 2 Ehler, W½ SE SW 12-17-11w, dry, T.D. 3,372 ft.
Lario 1-A Massman, W½ NE SW 18-17-10w, dry, T.D. 3,342 ft.

Brinegar, Greenwood County: Saco 3 Adams, SW NE NW 27-26-13e, dry, T.D. 1,452 ft.

Catherine, Ellis County: Darby 1 Younger, N½ NW NW 20-13-17w, 96 bbl., Arbuckle, T.D. 3,696 ft.

Coralena, Russell County: Continental 8 Meharg, SE NE SE 17-15-13w, 1,510 bbl., Kansas City lime, T.D. 3,126 ft., acid.
Coralena 4 Bitter, S½ SE NW 16-15-13w, 129 bbl., Kansas City lime, T.D. 3,104 ft., acid.
Continental 9 Meharg, NE SE NE 17-15-13w, 940 bbl., Kansas City lime, T.D. 3,125 ft., acid.

Carter 6 Josephine, SE SE 7-15-13w, swabbed 47 bbl., Kansas City lime, T.D. 2,974 ft.
Dubuque, Russell County: I. W. Murfin 1 Janne, S½ SW SE 27-15-12w, 459 bbl., T.D. 3,336 ft.
Fairport, Russell County: Stanolind 4-A Booth, S½ NE NW 32-11-15w, 115 bbl., Kansas City lime, T.D. 3,225 ft.
Frog Hollow, Cowley County: Leader 1 Scott, NE NE 20-32-5e, 524 bbl., Bartlesville, T.D. 3,052 ft.
Geneseo, Rice County: Cities Service 2 Ross, NW SW NE 11-18-8w, 51 bbl., Arbuckle, T.D. 3,267 ft.
Goodrich, Sedgwick County: Oskaloosa 1 Lemry, NW NW NE 21-25-1e, 354 bbl., Viola, T.D. 3,348 ft.
Graber, McPherson County: Prunty 2-B Jones, N½ N½ SW 32-21-1w, 180 bbl., Hunton, T.D. 3,307 ft.
Greenvale, Russell County: Jones-Shelburne 3 Major, NW SW NE 4-15-12w, 3,000 bbl., Kansas City lime, T.D. 3,018 ft., acid.
West Greenvale, Russell County: Shell 1 Vejl, NE NE NW 5-15-12w, 747 bbl., Gorham sand, T.D. 3,227 ft.
Hall-Gurney, Russell County: Stearns 2 Opdycke, S½ SE SW 10-14-13w, 1,940 bbl., Kansas City lime, T.D. 3,015 ft.
Stanolind 1-A Krug, NE NE 27-14-14w, 1,821 bbl., Kansas City lime, T.D. 3,058 ft., acid.
Cities Service 3 Hicker, N½ NE NE 25-14-14w, 159 bbl., Kansas City lime, T.D. 3,150 ft., acid.
Keesling, Rice County: Olson 1 Cox, SE NE 9-20-9w, 459 bbl., Arbuckle, T.D. 3,240 ft.
Mabee 2 Miller, E½ SW NE 9-20-9w, 49 bbl., Arbuckle, T.D. 3,254 ft.
Colorado Petroleum 2 Keesling-B, W½ SW NW 10-20-9w, dry, T.D. 3,270 ft.
Kipp, Stafford County: Skelly 2-E Kipp, N½ SW NW 25-26-14w, 3,000 bbl., Kansas City lime, T.D. 3,801 ft.
Kiblitz, Ellis County: Doley 3 Koblitz, W½ NW NW 23-12-18w, 625 bbl., Arbuckle, T.D. 3,677½ ft., acid.
Kraft, Barton County: Magnolia 3 Riemann, S½ SW SE 4-17-11w, dry, T.D. 3,327 ft.
Krier, Barton County: B. B. & M. 3 Krier, W½ NE SE 30-16-11w, 62 bbl., Lansing, T.D. 3,075 ft., acid.
Skelly 4-A Esfeld, W½ SW NE 30-16-11w, 2,128 bbl., Lansing, T.D. 3,112 ft.
Lanterman, Barton County: Texas 2 Henning, 22-19-11w, 3,000 bbl., Kansas City lime, T.D. 3,330 ft., acid.
Lost Springs, Marion County: Ring Mac 1 Kaiser, W½ NW SE 33-17-4w, 359 bbl., Mississippi chat, T.D. 2,407 ft.
Max, Stafford County: Stanolind 1 Helmers, E½ NW SW 1-22-12w, 3,000 bbl., Arbuckle, T.D. 3,575½ ft.
McPherson, McPherson County: Olson 2 Anderson, W½ NW SW 6-19-2w, dry, T.D. 3,006 ft.
Potwin, Butler County: Ramsey 2-A Joseph, NW SE SE 25-24-3e, dry, T.D. 2,740 ft.
Prusa, Barton County: Derby 5 Bernsdorf, NW SW NE 33-16-11w, 3,000 bbl., Arbuckle, T.D. 3,346 ft., acid.
North Prusa, Barton County: Sinclair Prairie 4 Oeser, N½ NW SE 17-16-11w, 66 bbl., Lansing, acid.
Ray, Phillips County: Cities Service 2-B Johnson, NE NW SW 32-5-20w, 3,000 bbl., Reagan, T.D. 3,632 ft., acid.
Raymond, Rice County: Branine-Holl & Ice 1 Thompson. S½ SW SW 17-20-10w, 621 bbl., Lansing, T.D. 3,117 ft.
Ritz-Canton, McPherson County: Shawver and Magnolia 1-B Klassen, old well drilled deeper from 3,430 ft. to 3,498 ft., T.D., dry.
Silica, Barton County: Derby 8 State, W½ W½ SW 10-20-11w, swabbed 34 bbl., Arbuckle, T.D. 3,291½ ft.
Sperling, Harvey County: Selby 2 Sperling, NE SE SE 14-22-2w, 217 bbl., Hunton, T.D. 3,282 ft.
Stoltenberg, Ellsworth County: Cities Service 2 Kralik, W½ NE NW 8-16-10w, 1,886 bbl., Arbuckle, T.D. 3,339 ft., acid.
Trapp, Barton County: Shell 2 Batt, NW SE SE 2-16-14w, swabbed 140 bbl., Arbuckle, T.D. 3,340 ft.
Shell 2-B Michaelis, NW SE 33-15-13w, 3,000 bbl., Arbuckle, T.D. 3,348 ft., acid.
West Trapp, Russell County: Ohio 1 Maier, E½ SE SW 10-15-14w, swabbed 52 bbl., Arbuckle, T.D. 3,221 ft.
Zenith, Stafford County: Landon 3 Volker, N½ SW SW 1-24-11w, 277 bbl., Viola, T.D. 3,736 ft.
Stanolind 8 Richardson, S½ N½ SW 10-24-11w, 1,840 bbl., Misener, T.D. 3,828 ft.

Second Deep Hunton Well At Falls City Is Pool's Largest

ST. JOSEPH, Mo.—Discovery of deeper Hunton lime pay at the Falls City pool, Richardson County, Nebraska, early in June appeared last week to be the most important development in the field since it was opened a year ago. Ohio Oil Co. completed the second deep producer for the largest well yet brought in in the pool and officials of the company indicated that all future wells would be completed in the deeper zone.

The new well, Ohio 1 Sibbernson, C S½ SW 17-1-16e, flowed 894 bbl. in 11 hours from the Hunton deep zone at 2,280-85 ft., and was given a potential of 1,920 bbl. a day. Discovery of the deeper production was made by the joint venture of Ohio and Harry Harper which did poorly in the upper Hunton and failed altogether in the Viola. From the lower Hunton, however, it flowed 35 bbl. an hour, natural. Neither of these wells was treated with acid.

In the future, Ohio will probably drill all wells to the deep zone and complete them so they can be plugged back to the higher horizon at a later date. No deepening of present wells was in prospect for some time, however, since they are holding up well and will probably be allowed to deplete the present production before they are worked over.

Meantime, western Nebraska wildcats were starting up again and considerable interest was shown in Vedder Supply & Development Co. 1 Battin, near Cherryvale in Hardin County, N½ SE NW 15-2n-18w,

(Continued on Page 57)

OHIO, INDIANA, KENTUCKY

Big Gas Wells in Muskingum County Will Enlarge Play

By STAFF CORRESPONDENT

NEWARK, Ohio, June 30.—Attention is being centered on the excellent gas results in the Clinton horizon in the Brush Creek pool in Muskingum County. Two 10,000,000-cu. ft. gassers were completed during the past week at the 4,200-ft. level; one of which extends the pool ½ mile southward into Morgan County.

The sub-Trenton test in Wayne County has been plugged after shooting an oil showing at 5,800 ft.

In Monroe County, Barnesville Development Co. is rigging up a deep test on the A. C. Peters farm, SW Section 22, Malaga Township, which is scheduled for the Oriskany sand or deeper. It starts at an elevation of 1,198 ft.

In Noble County, John T. Galey et al resumed drilling and reached 1,800 ft. in the deep test on the Jacob Ullman heirs farm, NE Section 21, Elk Township. Here, the surface elevation is 703 ft. and it is scheduled for the Oriskany sand. W. H. Larick of Byersville is the contractor.

SUMMARY OF COMPLETIONS

Ohio

	No.	Bbl.	Footage
Oil wells	11	108	10,876
Gas wells	18	*32.5	49,308
Dry holes	13	.....	31,359
Total	42	.....	81,543
Input wells	3	.....	1,335

*Million cu. ft.

Indiana

	No.	Bbl.	Footage
Oil wells	1	60	2,875
Gas wells	1	.....	705
Dry holes	5	.....	9,410
Total	7	.....	12,990

Eastern Kentucky

	No.	Bbl.	Footage
Gas wells	2	*1.0	6,417
Dry holes	1	.....	3,061
Totcl	3	.....	9,479

*Million cu. ft.

Western Kentucky

	No.	Bbl.	Footage
Oil wells	2	110	1,774
Dry holes	1	.....	620
Total	3	.....	2,394

Ashland County

Mohican Township: W. G. Obrecht 4 L. C. Galloway, Sec. 32, 150,000 cu. ft. gas, Berea, T.D. 725 ft.
Perry Township: Perry Oil 1 Eliz. DeVault, Sec. 20, 5 bbl., shot, T.D. 716 ft.

Athens County

Carthage Township: Ohio Fuel 2 Martin Koehler, Sec. 25, 10 bbl., Berea, shot, T.D. 1,643 ft.
Ohio Fuel 5 Lena Wilson, Fraction 17, 450,000 cu. ft. gas, Macksburg 800-ft. sand, T.D. 976 ft.
Rome Township: C. W. Nuzum 2 C. R. Featherston, Sec. 17, dry, Keener, T.D. 1,026 ft.

Belmont County

Union Township: Barnesville Dev. 2 John Wilson, Sec. 26, 75,000 cu. ft. gas, second Cow Run (Keener dry), T.D. 1,190 ft.

Coshocton County

Tiverton Township: Ohio Fuel 1 H. S. Bumpus, Sec. 13, dry, Clinton, T.D. 3,390 ft.

Cuyahoga County

Independence Township: Obermiller Bros. 1 Balinko, Lot 26, 700,000 cu. ft. gas, Newburg, T.D. 2,727 ft.

Hocking County

Ward Township: Kachelmacher 1 L. D. Poston, dry, shale, T.D. 2,214 ft.

Holmes County

Washington Township: Ohio Fuel 1 William Young, Sec. 16, 180,000 cu. ft. gas, Clinton, shot, T.D. 3,100 ft.

Licking County

Madison Township: Ohio Fuel 1 L. P. Miles, Lot 11, 950,000 cu. ft. gas, Clinton, T.D. 2,558 ft.
Mary Ann Township: Settles Oil Co. 4 H. O. Thompson, Lot 9, 12 bbl., shot, Berea, T.D. 600 ft.
George Vandergrift 3 W. A. Conner, Lot 5, 2 bbl., shot, Berea, T.D. 715 ft.
Newark Township: Ohio Fuel 2 M. E. Van Tassel, first quarter, 300,000 cu. ft. gas, Clinton 2,410 ft.
Dowler Oil 1 William Moull, first quarter, 370,000 cu. ft. gas, shot, Clinton, T.D. 2,383 ft.
Newton Township: Ohio Fuel 1 W. W. Evans, Lot 6, first quarter, 1,480,000 cu. ft. gas, Clinton, T.D. 2,764 ft.

Medina County

Chatham Township: Marine Trust Co. A-60 George W. Packard, Tract 14, Lot 3, 5 bbl., Berea, T.D. 392 ft.
Marine Trust Co. O-76 George W. Packard, input, Berea, T.D. 446 ft.
Marine Trust Co. O-53 Carl G. Packard, input, Berea, T.D. 431 ft.
Marine Trust Co. O-76 Carl G. Packard, input, Berea, T.D. 458 ft.
Preston Oil 1 C. L. Billman, Tract 16, Lot 25, 50 bbl., shot, Berea, T.D. 472 ft.
Hinckley Township: Ohio Fuel 2 Alonzo Hier, Lot 70, 1,560,000 cu. ft. gas, shot, Clinton, T.D. 3,587 ft.

Monroe County

Franklin Township: Hines Oil 1 Ross Hines, Sec. 31, 120,000 cu. ft. gas, Salt sand, T.D. 1,170 ft.

Morgan County

Marion Township: W. S. Harris 1 B. E. Workman, 1,800,000 cu. ft. gas, Brill, T.D. 996 ft.
Williams Bros. 2 E. Olney, Lot 5, dry, T.D. 875 ft.
Williams Bros. 1 Ethel Milner, Lot 6, dry, Maxon, T.D. 875 ft.
York Township: Pure Oil 1 H. E. Fouts, Sec. 22, 10,000,000 cu. ft. gas, Clinton 4,177-4,212 ft.

Muskingum County

Brush Creek Township: Ohio Fuel 3 fee, Sec. 15, 500,000 cu. ft. gas, shot, Clinton, T.D. 4,064 ft.
Harrison Township: Ohio Fuel 1 M. P. Offenbacker, Sec. 11, 10,000,000 cu. ft. gas, Clinton, 4,234-62 ft.
Pure Oil 1 Jennie Moody, Sec. 11, 2,250,000 cu. ft. gas, Clinton, T.D. 4,002 ft.
Wayne Township: Atha 3 Jos. Ellerman, Sec. 14, dry, Medina, T.D. 4,030 ft.
Preston Oil 1 Jos. A. Paul, Sec. 4, dry, Medina, T.D. 3,945 ft.

Noble County

Marion Township: Marion Oil 1 J. F. Guiler, in Sec. 11, dry, Berea, T.D. 1,610 ft.
Noble Township: F. W. Fassett et al 3 Nebon Leasure, NW Sec. 34, 3 bbl., Macksburg 300-ft. sand, T.D. 319 ft.

Perry County

Clayton Township: Palm Oil 3 New Perry Coal Co., Sec. 9, 15 bbl., shot, Clinton, T.D. 3,337 ft.

Seneca County

Seneca Township: C. R. Temple 1 Fred Henrick, Sec. 26, dry, Trenton, T.D. 1,730 ft.

Tuscarawas County

Sandy Township: Natural Gas of W. Va. 1 J. S. Sweaney, Sec. 4, 1,280,000 cu. ft. gas, Clinton, T.D. 4,669 ft.

Wayne County

Plain Township: Ohio Fuel 1 Fred Aber, Sec. 32, dry, Clinton, T.D. 3,058 ft.
Wooster Township: Ohio Oil 8 J. H. Armstrong, Sec. 14, plugged back to 5,813 ft., shot 80 qt. at 5,763-5,813 ft., 10 gal. 20 hr. after shot, plugged, T.D. 6,116 ft.

Washington County

Aurelius Township: Phillip Bros. 1 W. W. Sherbourne, Sec. 18, dry, Macksburg 500-ft. sand, T.D. 615 ft.
Burt Oil 1 Wm. Forshey, Sec. 18, 10 bbl., shot, Macksburg 300-ft. sand, T.D. 301 ft.
Liberty Township: Burkhart 1 J. M. Hall, Sec. 4, 1 bbl., Cow Run (lime dry), T.D. 1,135 ft.
Salem Township: H. J. Wenzel et al 1 H. J. Wenzel, Sec. 66, on Bear Creek, 1½ bbl. with 45,000 cu. ft. gas, Macksburg 800-ft. sand, T.D. 1,246 ft.

Wood County

Center Township: Ed. Radner et al 1 John Nelson, Sec. 32, dry, sub-Trenton, T.D. 1,875 ft.

Posey County Prospective Pool Opener Shows Up Noncommercial

EVANSVILLE, Ind., June 30.—Whisenant & Trenchard 1 Florence McFadden, prospective pool opener in SW NW SW 16-6s-14w, Posey County, was apparently noncommercial last week after swabbing only 18 bbl. a day following a second shot of 95 quarts in the Cypress. The shot, however, was believed to have damaged casing making production estimates difficult to obtain. Prior to the second shot the well swabbed 28 bbl. in 16 hours. At the end of the week operators

(Continued on Page 62)

Wilcox Trend Play Linking La Salle With South Area

By GEORGE WEBER

SHREVEPORT, La., June 30.—Completion of a good producer in the new Walters discovery in south La Salle Parish quickened interest in the Wilcox play. The tempo of leasing and wildcat exploration is expected to increase considerably during the next few weeks, further incited by another Wilcox discovery in Avoyelles Parish to the south of Walters.

H. R. Scivally, trustee, 1 Louisiana Delta Hardwood Lumber Co., 12-6n-4e, on the southeast edge of Catahoula Lake, made an initial gage of 15 bbl. hourly of 43.7-gravity oil last week, as the new Walters field was officially opened. The Carter Oil Co., which held a large share in the new well, has taken over development of the field and has staked 2 Louisiana Delta, a south offset to discovery. In addition, the company is moving in materials and rigging up 1-B Tensas Delta, in the Lake Larto area, 8 miles southeast of Walters.

Elsewhere in the Wilcox play, Little River Oil Co. 1 Whatley, 18-7n-2e, La Salle Parish, is reported to have showed production possibilities, and is waiting orders at 3,724 ft. The testing of oil and salt water in W. C. Brock 1 Snowden Estate, 22-3n-5e, Avoyelles Parish, 20 miles south of the Walters field, added further to interest in the Wilcox possibilities of Central and North Louisiana. The wildcat was perforated at 6,693-96 ft., and although a gage was not available at latest reports, the fact that the well flowed oil through the tubing in 2 minutes strongly indicated a new field discovery.

In the old Urania field of La Salle Parish, Arkansas Fuel Oil Co. abandoned 13-A Tremont, which showed odor of oil in the top of the Wilcox, the old production horizon, but failed to find shows in any horizons corresponding to the deeper Wilcox pay producing at Olla, Little Creek, Nebo or other new fields. The company has staked 2-D Tremont in the same area for another test of the lower Wilcox.

SUMMARY OF COMPLETIONS

North Louisiana

	No.	Bbl.	Footage
Oil wells: Caddo	6	213	10,663
Olla	1	160	2,416
Little Creek	1	234	2,715
Walters (wildcats)	1	360	5,510
Gas wells: Sibley	1	*30	5,729
Dry holes: Urania	1	.....	4,005
Total	11	.....	31,038

Arkansas

	No.	Bbl.	Footage
Oil wells: Troy	1	73	2,188
Smackover	1	10	3,202
Gas wells: Dorcheat	1	†240	8,928
Dry holes: Fouke	1	.....	3,999
Troy	1	.....	2,507
El Dorado	1	.....	2,275
Total	6	.....	23,099

East Texas Border

	No.	Bbl.	Footage
Dry holes: Wildcats	1	.....	4,314

*Million cu. ft. †Condensate production.

New Lisbon Tests Staked

Another deep test on the Lisbon structure was staked last week. Crow Drilling Co. will drill 1 O'Bannon to the Travis Peak or about 5,500 ft. The location is about 4 miles north of the Union Producing Co.'s 1-A Meadows, which opened the first Smackover lime production in North Louisiana, producing gas and condensate. The new test will be located high on the major Lisbon structure, and about 5 miles north of Pettit production of the Lisbon field, which is developed on a portion of the southern flank of the structure.

Joaquin-Logansport Gas Field Given 320-Acre Spacing

An order of the Louisiana Department of Minerals issued set a well-spacing pattern of 320 acres for the Joaquin or Logansport gas field in De Soto Parish. The order further set an allowable schedule based on per-well basis. Southern Natural Gas Co. has developed much acreage in the gas field, both in De Soto Parish and across the Texas State line in Shelby County. Other operators who have awaited a ruling, may be expected to begin drilling shortly.

NORTH LOUISIANA COMPLETIONS

Wildcats

La Salle Parish: H. R. Scivally, Tr., 1 La. Delta, SW NE 12-6n-4e, 360 bbl., 43.7-gravity oil, 16/64-in. choke, T.P. 400 lb., C.P. 500 lb., T.D. 4,782 ft., old T.D. 5,510 ft., 7-in. casing 4,826 ft., perf. 4,755-60 ft. *Discovery, Walters field, Wilcox production.*

Fields

Caddo, Caddo Parish: J. E. Bailey 1 Dickson, NW NW NW 15-19-14, pumped 20 bbl., T.D. 2,467 ft., 5½-in. casing 2,436 ft.
L. M. Calhoun, Jr., 1 Stiles, NW SW SW 33-21n-16w, pumped 35 bbl., T.D. 1,840 ft., 6-in. casing 1,830 ft.
Tom Papadakis 5 Spell, SW NW SW 28-21-15, pumped 25 bbl., T.D. 1,602 ft., 7-in. casing 1,400 ft., 3,500 gal. acid.
Stanolind Oil & Gas Co. 136 Dillon, NW SW SW 12-21-15, pumped 36 bbl. oil, 18 bbl. salt water, T.D. 1,672 ft., 5½-in. casing 1,495 ft., 5,000 gal. acid.
Texas Co. 12 J. F. Herndon, SW SE SW 14-21-15, pumped 90 bbl. oil, 6 bbl. salt water, T.D. 1,600 ft., 6⅝-in. casing 1,479 ft., 4,000 gal. acid.
Weaver Perry Oil Corp. 10 Pardue, NW SE NW 33-21-15, pumped 25 bbl., T.D. 1,555 ft., 7-in. casing 1,386 ft., 4,000 gal. acid.
Urania, La Salle Parish: Ark. Fuel Oil Co. 13-A Tremont, NW NW 29-10-2e, T.D. 4,005 ft., dry.
Olla, La Salle Parish: H. L. Hunt 11 Goodpine, SW SW 8-10-3e, 160 bbl. oil, 40 bbl. salt water, 18/64-in. choke, T.P. 150 lb., C.P. 450 lb., T.D. 2,416 ft., 7-in. casing 2,416 ft., perf. 2,223-34 ft., Wilcox.
Little Creek, La Salle Parish: Placid Oil Co. 1 Brooks, SW NE 32-9-2e, 234 bbl. oil, 19 bbl. salt water, 14/64-in. choke, T.P. 100 lb., C.P. 240 lb., 7-in. casing 2,709 ft., T.D. 2,715 ft., Wilcox.
Sibley, Webster Parish: Moffitt & Perritt 2 Fudicker, SE NW NE 2-17-9w, 30,000,000 cu. ft. gas, open flow, R.P. 1,820 lb., T.D. 5,729 ft., 5½-in. casing 5,670 ft., perf. 5,586-5,600 ft.

WILDCAT DRILLING REPORT

Bienville Parish: R. E. Collins et al 1 Madden heirs, SW SW SE 3-16n-8w, W.O.C., surface casing 30 ft.
Caldwell Parish: Big West Drlg. Co. 1 A. Lowe, SE SE 36-12n-3e, drilling 4,001 ft., shale.
Southern Carbon Co. 1 Howard, SW SE 13-14n-4e, rigging up.
Catahoula Parish: Carter Oil Co. et al 1-B Tensas Delta Land Co., NE SE 15-5n-5e, rigging up.
Claiborne Parish: Big West Drlg. Co. 1 Alford, C W½ 11-21-4w, derrick.
De Soto Parish: J. E. Stock et al 1 Cook, NW NE 32-13-14, tested dry, will acidize, T.D. 2,890 ft.
Franklin Parish: S. J. Ryan 1 Womble, NW NW NW 11-12n-8e, W.O.C., surface casing 285 ft.
La Salle Parish: Aden Oil Co. 1 Grey, NE NE 36-8-2e, S.D. 750 ft.
Little River Oil Co. 1 Whatley, NE NE 18-7n-2e, T.D. 3,742 ft., ran electrical survey, S.D.
Morehouse Parish: Union Prod. Co. 1 Henkle, SW 3-21n-7e, drilling 2,947 ft.
Natchitoches Parish: Rhodes & O'Mara 1 Prudential Life, NE SE 36-11-10, drilling 4,217 ft.
West Carroll Parish: R. H. Crow, Tr., 1 Bruce Lbr. Co., SE 16-21-9e, moving in material.

New Wildcats

Claiborne Parish: Crow Drlg. Co. 1 O'Bannon, NW 30-22n-4w.

Columbia Wildcat to Resume Operations

The McAlester Fuel Co. 1 Franks, an important Columbia County wildcat, located 5 miles east of the Dorcheat field, is reported finishing a fishing job at 2,590 ft. and may resume drilling below 8,798 ft. this week. The test has met with reverses as drill pipe became stuck twice. With a good show of oil in the Cotton Valley formation, the test was carried deeper to explore the Smackover lime. Although the lime was expected to be contacted before the present depth was reached, and the anticipated topping of the lime higher than at Dorcheat has met with disappointing results thus far, the wildcat may still find oil, gas or condensate in the lime and extend the field. Developments of the next few days, if the test is resumed, will be watched with considerable interest. If the test fails to find Smackover production, it is reasonable to expect that it will make a Cotton Valley producer.

McKamie Acreage Unitized

Following several weeks of negotiation, acreage in the McKamie field, Lafayette County, has been unitized and G. H. Vaughn, who unitized a long 160-acre tract, has staked the Frankel et al 1 Cornelius. The difficulty in developing the southeast section of the gas-condensate field arose when the state Oil and Gas Commission ordered 160-acre spacing for the gas field, and original wells were drilled on 40-acre tracts. The new test just staked will drill in the center of a governmental 40, but will include 160 acres in its tract. This is expected to settle the problem of developing acreage adjacent to the early 40-acre wells, drilled before the 160-acre spacing rule went into effect.

ARKANSAS COMPLETIONS

Fields

Dorcheat, Columbia County: Southwood Oil Co. 1 J. Hunt, NE NW 14-18-22, 240 bbl. condensate, 160,000,000 cu. ft. gas, 12/64-in. choke, T.P. 2,700 lb., C.P. 2,800 lb., T.D., 5½-in. casing 8,928 ft., perf. 8,916-23 ft., Smackover lime.
Fouke, Miller County: W. C. Feazel 1 Sturgis, SE SE NE 2-17s-27w, dry, T.D. 3,999 ft.
Troy, Nevada County: Benedum & Trees 1 Grayson, SW NW 11-14-20, pumped 73 bbl. oil, 32 bbl. salt water, T.D. 2,188 ft., 7-in. casing 2,183 ft.
Benedum & Trees 1 Meadows, SE SE NW 11-14s-20w, T.D. 2,507 ft., dry.
El Dorado, Union County: Consolidated Pet. Corp. 1 Stegall, SE SE SE 10-18-14, T.D. 2,275 ft., dry, 5½-in. casing 2,238 ft.
Smackover, Union County: C. H. Porter 1 Childs, 8-16-16, pumped 10 bbl. oil, 90 bbl. salt water, T.D. 3,202 ft., 5½-in. casing 3,202 ft., perf. 2,630-35 ft.

WILDCAT DRILLING REPORT

Clarke County: Coker, Christman & Grieves 1 Williams, NE NE NE 7-11-20, T.D. 1,765 ft., tested salt water, S.D., work over.
Columbia County: McAlester Fuel Co. 1 Franks, SE SE 16-18-21, fishing drill stem 8,798 ft.
Howard County: Miller & Fletcher 1 Dierks Lumber Co., SW SW 7-8s-28w, S.D. 500 ft.
Jefferson County: Patterson & Stratton 1 F. & D. Stratton, SE NW NE 35-6s-9w, T.D. 1,693 ft., S.D.
Ouachita County: Arkansas Fuel Oil Co. 1 McGaughy, NW NW 6-15s-18w, drilling shale and lime 4,300 ft.
Prairie County: Alvin E. Stark 1 Fidelity Mutual, NE NE SW 16-2n-6w, S.D. 1,255 ft., repair rig.
Saline County: A. W. Givens 1 Williams, NW NE NE 18-3s-15w, reaming, T.D. 1,090 ft.
St. Francis County: D. T. Hargraves, tr., 1 Peters, NE NE NE 21-4n-1w, rigging up.

Sabine County Wildcats Watched

Two wildcats located in Sabine County, East Texas, are of current interest. Six miles northeast of Hemphill, Paul Pewitt's 1 Barton, J. S. Lacy Survey, nearly blew out while operator was drilling at 5,419 ft. The hole was conditioned, and while circulating mud, an oil show appeared on the pit. The show, however, is believed to be from lubricating oil used for a stuck drill stem several days ago. The operator plans to run an electrical survey to present depth, however, and possibly set 4,600 ft. of casing.

In the Pineland area of Sabine County, Sturm & Womack have perforated casing at 4,958-64 ft. in 1-A Keith, L. Groce Sur. The wildcat is bottomed at 6,925 ft. It was plugged back last week to 6,716 ft., and perforations were shot at 6,642-46 ft., but salt-water flow resulted. East Border counties of Texas are sharing in the increased interest incited by new discoveries in East Texas, and new wildcats along the Louisiana border are expected shortly.

EAST BORDER TEXAS COMPLETION

Wildcat

Cass County: British American Oil Prod. Co. 1 East Texas Iron Assn., Lavenia Moren Sur., T.D. 4,314 ft., dry.

WILDCAT DRILLING REPORT

Panola County: Crow Drlg. Co. et al 1 Frost Lumber Ind., Thomas Kelly Sur. A-372, drilling 4,696 ft.
Sabine County: Paul Pewitt 1 Barton, John S. Lacy Sur., T.D. 5,419 ft., preparing to run 4,600 ft. casing.
Sturm & Womack 1-A Keith, L. Grace Sur., T.D. 6,925 ft., P.B. 6,716 ft., perf. 6,612-46 ft., flowed salt water, squeezed, perf. 4,958-64 ft.
San Augustine County: Roper & Todd 1 Long Bell Lumber Co., N. Hyden Sur., T.D. 5,063 ft., fishing.

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POST OFFICE BOX 2119 HOUSTON, TEXAS

Two Offsets Start at Apache; Old Areas Pay Off Again

By ROBERT INGRAM

DRILLING crews last week finally pumped enough cement behind the casing in Texas 2 Smith, discovery well at Apache in SE NW 2-5-12w, Caddo County, to kill the gas which had been more or less wild ever since the first production test was taken nearly 4 weeks ago. At the same time, representatives of the Texas Co. and other operators agreed at a meeting with the state Corporation Commission on a casing program for future wells in the pool which is expected to prevent other blowouts.

The commission issued an order from the bench requiring three strings of casing—one to be set at from 750-1,000 ft., another at from 2,200-2,400 ft., and a third flow string to be cemented on top or near the top of the Wilcox oil-sand zone, about 3,380 ft. In addition, the second string—which would be run to shut off the big gas flow from a zone at about 2,200 ft., probably the Hunton lime—is to be cemented back to the union with the first string and the third string is to be cemented back to that.

Trouble from the gas in the 2 Smith was due to the fact that it broke loose behind the casing and when sealed off near the surface began leaking through upper porous zones and out of the ground from sands in ravines as far as ½ mile from the well. Its flow, before shut in at the well, was estimated at as high as 50,000,000 cu. ft. of gas a day with a pressure of about 1,000 lb. per sq. in.

New wells in the pool, at least for some time, will pass by this gas zone and head for the Wilcox which made 125 bbl. of oil in 30 minutes on a drill-stem test from 3,383-3,410 ft. at 2 Smith. They will also be drilled, under orders of the commission, on a 20-acre diagonal spacing pattern. Two of these wells were started last week. They were Texas 3 Smith, SW SE NW 2-5-12w, offset to the discovery, and Sinclair Prairie 1 Lewis, NE SW 2-5-12w, south of the discovery.

Since one or both of these wells is expected to be producing before the discovery well has had time to make the 40,000 bbl. which Texas Co. officials asked as unprorated discovery bonus, it was agreed at a meeting of operators that the 2 Smith would be given an additional 50 per cent of the current allowable as its bonus. This plan was suggested by Joe J. O'Laughlin, conservation officer. Ordinarily a discovery well is allowed to produce all the oil it can until such time as another well is brought in in the same pool. There is no rule on the amount of oil so permitted.

Plug on the 7-in. casing at the discovery well was expected to be drilled and the well completed some time this week. Officials of the Texas Pipe Line Co. in Tulsa had previously announced they would build a pipe-line outlet—probably 8-in.—from the discovery well, through the Cement field and on to Oklahoma City as soon as the well was assured and development of the pool was expected to hit a good pace. Meantime, Olson 1 Ka-Way-Kla, SE NE NW 28-6-11w, a wildcat 8 miles east and north, was drilling below 3,400 ft.

Five Offsets Staked at Otoe Pool in Noble County

Development of the Wilcox sand in the old Otoe pool of Noble County, opened a week ago by Superior Oil Co. 1 Faubian, SE SW SE 16-22-1 (The Oil and Gas Journal, June 26, 1941), got under way last week. Five locations were staked, all by Superior Oil Co. and all scheduled to start at once. They were 2 Faubian, NE SW SE of Section 16; the 3 Faubian, SW SW SE of Section 16; the 4 Faubian, NW SW SE of Section 16, the 2 Donahue, SW SE SE of Section 16, and the 1 Robedeaux, NW NE NE of 21-22-1.

Three New Pools Assured In Greater Seminole Area

Three more oil pools were assured last week in the Greater Seminole area of Pottawatomie, Okfuskee, and Seminole counties. One was a Wilcox sand strike in the St. Louis district, a prolific area covering a number of "pimples" or local highs spread over all of Township 7n-4e and the edges of all surrounding townships. It was made by Helmerich & Payne and Eagle Oil Co. 1 School Land, NW NE 16-7-5, which swabbed 156 bbl. of oil in the first 3 hours with no salt water showing. Pay was found at 4,111-19 ft., total depth.

Almost at the same time, C. W. Sharp 1 Billington, NW SE SE 21-9-4, a failure in the Wilcox, swabbed 125 bbl. of oil in 6 hours from the Viola lime to open what was called the East Tecumseh pool. After being plugged back from the Wilcox, which tested salt water, the well was brought in from the Viola by perforating the casing at 4,500-40 ft. Both of these wells are in Pottawatomie County.

And in Okfuskee County, Texas Co. 1 McKernan, N½ NW SW 15-12-9, which has been testing the Wapanucka-Cromwell zone at 3,283 ft. for several weeks, was classed as a pool opener after company officials sought a spacing order from the Corporation Commission. The company, which owns 93 per cent of the leases in Sections 15 and 16-12-9, asked for a 20-acre spacing order covering those sections. The pool was designated North Castle. On early tests, the 1 McKernan flowed 112 bbl. in 24 hours through casing and made 7,000,000 cu. ft. of gas. After being shut in, it flowed 147 bbl. in 24 hours.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Dill	1	150	3,704
West Hewitt	3	1,159	6,700
Oklahoma City	1	785	6,490
St. Louis	1	226	4,166
East Stroud	3	737	9,817
Other fields	14	3,647	47,150
Wildcats	1	40	3,198
Gas wells: Fields	2	*78.5	6,357
Dry holes: West Hewitt	2	.....	5,260
St. Louis	1	.....	4,321
Other fields	4	.....	10,002
Wildcats	5	.....	14,237
Total	38	.....	121,402
Recompletions	2	85	.....

*Million cu. ft.

OKLAHOMA COMPLETIONS

Wildcats

Alma 1 Replogle . . . . . NW SW NW 14-11-10
Flowed 40 bbl. oil and 356 bbl. water, est. 3,000,000 cu. ft. gas, lower Cromwell 3,193 ft., 5-in. 3,160 ft., T.D. 3,198 ft., *pool opener*, Okfuskee County.

Fain Porter 1 Wilson . . . . . SE SW 30-2-22w
Dry, T.D. 6,351 ft., believed still in Pennsylvanian, maybe Canyon lime, Jackson County.

Atkinson 1 J. Billy . . . . . E½ NW NW 26-5-7w
Dry, T.D. 125 ft., temporarily abandoned, Grady County.

Vanderpool 1 Menshall . . . . . SE SE SW 11-16-3
Dry, T.D. 525 ft., H.F.W., sand 524-25 ft., Lincoln County.

Samedan 1 Briggs . . . . . SE SE SW 29-21-1w
Dry, T.D. 5,075 ft. in second Wilcox, 7-in. 3,516 ft., P.B. 3,560 ft. in Perry sand, perf. 3,394-3,416 ft., no show, Noble County.

Wofford 1 Osage . . . . . SW SW NW 10-22-11
Dry, T.D. 2,161 ft., Mississippi lime 1,839 ft., Osage County.

Fields

Alsuma, Tulsa County: Barth 2 Fink, SW SW SW 13-19-14, 458,000 cu. ft. gas, sand 1,148-53 ft., T.D. 1,161 ft.

North Beggs, Okmulgee County: Black 1-A Long, NE NW NE 17-15-12, dry, T.D. 2,700 ft.

North Bristow, Creek County: Greer 1 Dressler, NW SE 16-17-8, pumped 35 bbl. oil and 3 bbl. water, Prue 2,306-32 ft., T.D. 2,332 ft., P.B. 2,324 ft., shot 2,301-21 ft.

Calvin, Hughes County: Olson 1 Jones, SE SW SE 5-5-10, old well drilled deeper from 4,488 ft. to Cromwell 4,469 ft., T.D. 4,493 ft., 35 bbl. oil a day.

Cement, Caddo County: Magnolia 1 Niles, SE NW 36-6-10w, old well drilled deeper from 2,362 ft. to 3,265 ft., T.D., sandy shale 3,259-65 ft., 5-in. 3,250 ft., pumped and flowed 50 bbl.

Chickasha, Grady County: Phillips 1 Dahl, SE SW 22-5-8w, 78,000,000 cu. ft. gas, Charlson zone 5,025-5,170 ft., T.D. 5,196 ft., 7-in. 5,191 ft., perf. 5,158-64 ft., est. 15,000,000 cu. ft., perf. 5,075-5,172 ft. and 5,091-5,100 ft., S.I. pressure 1,875 lb.

Dill, Okfuskee County: Devonian 2 Phillips-B, NW SE SW 26-12-8, flowed 150 bbl. oil and 3 bbl. water, Cromwell 3,681 ft., sand 3,687 ft., 5½-in. 3,686 ft., T.D. 3,704 ft., shot 3,696-3,704 ft.

West Doyle, Stephens County: Phillips 2 Culbertson, SE NW SE 4-1-5w, flowed 45 bbl., shot 5,585-5,600 ft., 2-in. 5,580 ft., gravity 40°.

Fish, Seminole County: Mid-Continent 1 Ferguson, SW SE SW 18-7-8, dry, T.D. 1,520 ft., P.B. 1,460 ft., perf. 1,368-86 ft., black oil and water, lower Calvin 1,485-1,501 ft., 5-in. 1,488 ft.

West Fish, Seminole County: Barnes 1 Jackson, SE NW SE 14-7-7, dry, T.D. 3,532 ft., Cromwell 3,493 ft.

West Frederick, Tillman County: I. T. I. O. 10 Dickey, S½ N½ NW 1-3s-19w, potential 2,786 bbl., flowed 232 bbl. in 2 hr., Arbuckle 4,976-86 ft., T.D., 7-in. 4,975 ft., packer set 3,130 ft.

Glenn Pool, Creek County: Sinclair 43 Kieffer, NW SE SE 17-17-12, 20 bbl., Glen sand 1,411-1,521 ft., T.D. 1,525 ft.

Gypsy Hill, Okfuskee County: Oklahoma Oil 1-B Smith, NE SE NE 1-12-11, 12 bbl., Dutcher 2,547-63 ft., T.D. 2,569 ft.

Hewitt, Carter County: Merrick 8 Strowman, NE NE SE 22-4s-2w, pumped 39 bbl. oil and 2½ bbl. water, T.D. 3,153 ft., perf. seven zones between 1,670-2,870 ft.

West Hewitt, Carter County: Daube 6 fee, NE SW SW 17-4s-2w, dry, T.D. 2,685 ft., sand show oil and water 2,675-85 ft.

Smith 17 Ward, NE NE 19-4s-2w, flowed 35 bbl. in 2 hr., potential 421 bbl., 7-in. 2,010 ft., sand 2,036-2,110 ft., T.D. 2,163 ft.

Batson 4 Walker, NE SE NW 20-4s-2w, dry, T.D. 2,575 ft., lime, P.B. 2,330 ft., 7-in. 2,307 ft., perf. 2,268-75 ft., 2,135 ft., and 1,704-10 ft.

Batson 10 Williams, E½ W½ W½ 20-4s-2w, abandoned location.

Gibson 5-A Harrell, SE SE NW 20-4s-2w, flowed 690 bbl. through 1-in. tubing choke, T.D. 2,209 ft., 7-in. 2,209 ft., perf. 2,022-2,118 ft. and 2,132-66 ft.

Gibson 6-A Harrell, SW SW NW 20-4s-2w, pumped 48 bbl., T.D. 2,328 ft., 7-in. 2,328 ft., perf. 2,168-2,244 ft.

South Hickory Creek, Osage County: Blackwell 11 Osage, SW SE SW 3-28-11, 50 bbl., Wayside sand 904 ft., P.B. 948 ft., T.D. 954 ft.

Keystone, Pawnee County: Reynolds 5-A Ackley, W½ SE SE 14-20-9, location abandoned.

Langston, Logan County: Mid-Continent 2 East Dobson, N½ SE SE 11-17-1w, flowed 50 bbl., second Wilcox 5,205-12 ft., P.B. 4,923 ft., perf. 4,845-89 ft., acid.

Mannford, Creek County: Regal 2 Nichols-A, SE SE NW 1-18-8, 10 bbl. oil, Red Fork 2,383-2,416 ft., 6-in. 2,377 ft., T.D. 2,416 ft., shot 2,383-98 ft.

Oklahoma City, Oklahoma County: British American 5 Military, SW NE SW 34-12-3w, pumped 785 bbl., 8-in. 6,382 ft., Wilcox 6,397 ft., T.D. 6,490 ft., shot 6,442-91 ft.

Ramsey, Payne County: Mid-Continent 15 Ramsey, SE SE NW 18-18-2, flowed 178 bbl. in 1 hr. and 4,500,000 cu. ft. gas, Hunton 4,579-4,610 ft., T.D. 4,610 ft.

South Sapulpa, Creek County: Archer 7-A King, SW NW SE 22-17-11, location abandoned.

Slick, Creek County: Tibbens 1 Harry, SW SW SW 4-14-10, pumped 37 bbl., 6-in. 2,379 ft., Misener 3,169 ft., T.D. 3,188 ft., shot 3,169-88 ft.

St. Louis, Pottawatomie County: Denver 1-A Decker, SE SW SE 8-7-4, submersible pump 226 bbl. oil and 2,200 bbl. water, 7-in. 4,108 ft., Wilcox 4,163-66 ft., T.D. P.B. 4,144 ft., acid, P.B. 4,119 ft.

Smith 1-A Brandenburg, NE SW NW 21-7-4, dry, T.D. 4,321 ft., Wilcox 4,314 ft., H.F.W. 4,321 ft., P.B. 4,225 ft.

Josaline 2 Ward, SW SE NW 33-7-4, old well drilled deeper from 4,181 ft. to T.D. 4,243 ft., dry.

North St. Louis, Pottawatomie County: Smith 1 Tiffin, SW NW SW 26-8-4, flowed 240 bbl., Hunton 3,856 ft., 7-in. 3,855 ft., T.D. 3,860 ft., acid.

East Stroud, Creek County: Shell 4 Jones, SE NW SW 32-15-7, 296 bbl., Prue 2,858 ft., T.D. 2,883 ft.

Shell 3 Linihan, SE SE NE 31-15-7, 241 bbl., Wilcox 4,085-4,101 ft., T.D. 4,102 ft.

Lewis 4 Jones, SE NE SW 32-15-7, flowed 16 bbl. an hour, Prue 2,790 ft., 7-in. 2,790 ft., T.D. 2,832 ft., shot 2,797-2,829 ft.

Weleetka, Okfuskee County: Doak 3 Community, SE SW NE 16-10-11, flowed 125 bbl., Cromwell 2,834-44 ft., T.D., shot 2,835-43 ft.

East Wewoka, Seminole County: Ligon 1 Malone, NW NE SE 16-8-8, flowed 20 bbl., Hunton 3,222-41 ft., T.D. 3,941 ft., acid.

Miscellaneous gas area, McIntosh County: McNutt 1 Love, SW SW NE 1-12-16, dry, T.D. 2,250 ft.

WILDCAT DRILLING REPORT

North and Central

Creek County: Beal & LeVieux 1 Murray, SE SE SW 12-16-7, Bruner sand 960-1,000 ft., some show oil and H.F.W., underreaming at 1,285 ft.

Zephyr 1 Sinclair, SE SE NW 34-17-8, Wilcox 3,658 ft., no show oil, rig standard tools to drill plug.

Garfield County: Gulf 1 Schroeder, N½ NE NW 8-23-4w, drilling 5,540 ft. in Mississippian.

Kay County: Marr & Vaughn 1 Constant, N½ NE SE 6-27-1w, Wilcox 3,503 ft., Arbuckle 3,636 ft., cored lime and shale 3,675-76½ ft., T.D. 3,734 ft., electrical log, took side-wall samples from Oswego, 5-in. 3,382 ft. to test Oswego.

Alexander & Hauke 1-A Kreger, SE SE NE 4-25-2w, old T.D. 3,705 ft., Oswego 3,950 ft., Mississippi chat 4,355 ft., drilling in Mississippian 4,386 ft., with some show oil in samples.

Lincoln County: Allied Materials 1 Hicks, NW NW NW 25-13-6, 10-in. 132 ft.

Kemp 1 McLaurey, SE SE SW 28-17-5, Hogshooter 1,980 ft., Checkerboard 2,250 ft., Oswego 3,067 ft., Bartlesville 3,465-90 ft., dry, drilling 3,495 ft.

Logan County: Continental 1 Lenigar, SW SE SW 17-15-3w, Wilcox 6,219 ft., second Wilcox 6,392 ft., salt water P.B. 6,265 ft., 7-in. 6,029 ft., est. 50 to 100 bbl. oil and 300 bbl. water a day, bottom-hole pressure 2,200 lb., killed gas, cemented back to 6,250 ft.

Olson 1 Paulk, N½ NE SE 33-18-3w, drilling 1,400 ft.

Noble County: Superior 1 Faubian, SE SW SE 16-22-1, T.D. 4,925 ft., 7-in. 4,922 ft., P.B. 4,765 ft., perf. 4,728-30½ ft., swabbed 15 bbl. oil and 100 bbl. water off bottom, perf. 4,727-31½ ft., flowed 150-200 bbl. oil into pits in 30 min. with 20 per cent water, shut in 36 hr., flowed 203 bbl. oil plus 15

(Continued on Page 59)

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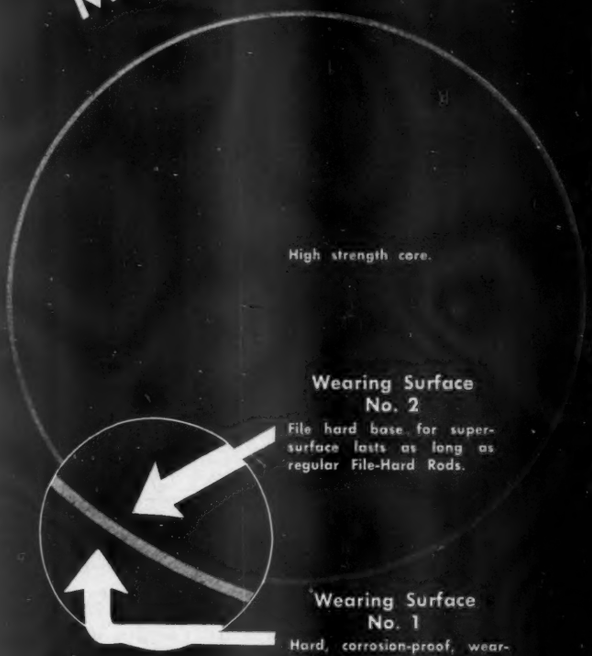
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North Texas Gets Sixth New Mississippi Lime Pool

By R. MARNE SANFORD

WICHITA FALLS, Tex., June 30.—A wildcat in northwestern Jack County is indicating the location of the sixth Mississippian lime discovery in North Texas during the past 6 months. Until the start of this year production from this level was very limited and only two or three scattered small wells were productive in widespread sectors of Young County. At present a definite province of North Texas looks like the most prospective area and several of the fields are located on the flank of this structural feature.

The newest prospect is Alma Oil 1 Maxey, J. W. Maxey Survey, 6 miles southwest of Antelope in extreme northwestern Jack County and only some 8 miles south of the recent prolific Mississippian lime level opened in the Antelope field of southwestern Clay County. The 1 Maxey perforated casing with 90 shots opposite the lime section from 5,270 to 5,320 ft. Bailer was run several times and the hole filled with an estimated 1,800 ft. of oil and showed 150,000 cu. ft. of gas. The Mississippian section was topped at 5,252 ft. and bottomed at 5,392 ft. Although no actual flows have been recorded by the well, chances for production are exceptionally good since the Mississippian lime has proven very receptive and responsive to acid treatment. The 1 Maxey will be treated before attempting completion.

This discovery is in a long-established shallow-producing area and is on the southeastern flank of the Bend arch at a point where the arch comes northward out of West Central Texas and swerves in a westerly direction along the Young and Archer County line. The two recent Mississippian lime strikes in northern Young County are both considered to be on the south flank of this structural feature, while the deep Antelope field level is on the northeast end of the structure. The other two producing spots from this lime are in central Clay County and the King-Taylor spot in western Archer County, somewhat disassociated with the previously mentioned structural feature of the area.

Exploration will undoubtedly become more intensified during the summer months both in northern Young and Jack counties and in southern Archer and Clay counties. The deep-level discovery in Antelope was completed for a potential in excess of 2,000 bbl. daily, while all other Mississippian lime discoveries, with the exception of the King-Taylor in Archer County, were completed for more than 1,000 bbl. daily. The lime does not occur so deep in the area that new drilling equipment or practices will need be employed in testing the level. Most of the territory is and has been under lease for several years thus new leasing and blocking will not delay the starting of many new wildcats in the immediate future.

New Deep-Sand Pool Indicated In Central Young County

The possibility of a deep oil pool for central Young County was indicated last week by the Dorian and Mitchell 1 D. B. Daniels, in the southwest corner of Block 421, T.E.&L. Survey, 2 miles west of New Castle. The test topped the Marble Falls sand at 4,408 ft. and drilled 8 ft. of saturation to 4,416 ft. A core taken from 4,416 to 4,430 ft. showed 14 ft. of heavily saturated sand. Operator planned to core to the base of the sand before running a drill-stem test on the section.

Started as a Mississippi lime test, the wildcat will be carried to that horizon before an attempt at completion is made.

Second Mississippian Well Indicated in Clay County

Prospects for a second Mississippi lime producer in eastern Clay County were bright at the close of the week as Shell Oil 1 Anderson was bottomed at 6,275 ft. Casing has been set on top of the Mississippi and operators will test a series of broken shows from 6,218 ft. to total depth.

The 1 Anderson, Block 5, T.&N.O. Survey, 8 miles southeast of Henrietta, is an eastern offset to Shell's discovery well, which was completed earlier this year.

A north offset to the field opener is being prepared for immediate drilling. This test is Shell Oil 2-A Coleman, in the R. W. Tyre Survey. At last report pits were being dug.

SUMMARY OF COMPLETIONS

North Texas

	No.	Bbl.	Footage
Oil: Hull-Silk	3	880	11,382
K.M.A.	3	815	12,402
Nocona	2	20	1,651
Voth	2	135	2,614
Other fields	3	635	10,473
Miscellaneous fields	11	423	12,752
Wildcats	1	124	5,792
Gas: Wildcats	1	*0.5	5,792
Dry: Fields	14	.....	15,626
Wildcats	4	.....	9,091
Total	44	.....	87,360

West Central Texas

	No.	Bbl.	Footage
Oil: Fields	4	194	5,180
Dry: Fields	3	.....	2,038
Total	7	.....	7,218

*Million cu. ft.

NORTH TEXAS COMPLETIONS

Wildcats

Archer County: C. L. Shive 1 Claude Cowan, 150 ft. from N and E lines of SE¼ Sec. 28, Jefferson Co. Sch. Lds. Sur. A-240, dry at 1,094 ft.
Clay County: Gulf Oil 1 Scaling, NW NW Sec. 31, T.&N.O. Sur. A-685, 75 bbl. in 3 hr., ¾-in. choke, 3,000 gal. acid, est. 124 bbl. daily, 5,780-92 ft.
Cooke County: Cochran & Cain 1 Drane, 2,720 ft. from W and 150 ft. from S lines E. Langford Sur. A-566, dry at 1,854 ft.
Jack County: Continental Oil 1 J. B. Robertson, Mary J. Swan Sur. A-1650, 496,000 cu. ft. gas in 24 hr., 4,651-62 ft., T.D. 5,577 ft., P.B. 5,200 ft.
Throckmorton County: Jack Bell 1 Putman, Sec. 25, Comanche Indian Reserve A-884, dry at 970 ft.
Young County: L. T. Burns 1 Dashe, SE cor. Sec. 18, I. Holeman Sur. A-160, dry at 5,163 ft.

Fields

Antelope, Clay County: Shell Oil 11 Coburn, 174 bbl. in 8 hr., 2-in. casing outlet, est. 450 bbl. daily, 3,218-30 ft., T.D. 3,410 ft., P.B. 3,232 ft.
Bryson, Jack County: Panhandle Ref. 1 Shoun A, 120 bbl. in 24 hr., 3,023-36 ft., T.D. 3,078 ft.
Fargo, Wilbarger County: Amerada Pet. 3 Folley, 58 bbl. in 20 hr., ½-in. choke, est. 65 bbl. daily, 3,646-58 ft., 3,966-80 ft., T.D. 3,985 ft.
Hull-Silk, Archer County: R. P. Dorian 4 Wilson, 47 bbl. in 2 hr., ¾-in. choke, 60-qt. shot, est. 250 bbl. daily, 3,787-3,807 ft.
Chapman & McFarlin 7 Wilson F, 47 bbl. in 1 hr., ¾-in. choke, 70-qt. shot, est. 500 bbl. daily, 3,786-3,800 ft.
Sinclair Prairie 3 Jones, 118 bbl. in 15 hr., ¼-in. choke, est. 130 bbl. daily, 3,767-75 ft.
K.M.A., Wichita County: King Oil 9 Waggoner, 33 bbl. in 3 hr., ½-in. choke, est. 175 bbl. daily, 3,750-94 ft.
Buffalo 1-Ellb. Ferguson, 113 bbl. in 3 hr., ½-in. choke, 2,000 gal. acid, est. 350 bbl. daily, top Ellenburger 4,212 ft., pay 4,260-98 ft.
Buffalo 3-Ellb. Ferguson, 94 bbl. in 3 hr., ½-in. choke, 2,000 gal. acid, est. 290 bbl. daily, top K.M.A. lime 3,668 ft., Ellenburger 4,205 ft., pay 4,254-4,307 ft., T.D. 4,310 ft.
Nocona, Montague County: J. M. Hawley 5 Bouldin "Crow," 10 bbl. in 24 hr., pumping, 25-qt. shot, 801-25 ft.
J. M. Hawley 6 Bouldin "Crow," 10 bbl. in 24 hr., 19-qt. shot, 801-26 ft.
L. R. Stewart 1 Edmonson, dry at 846 ft.
Voth, Cooke County: Humble Oil 16 Hellman, 43 bbl. in 8 hr., pumping natural, est. 80 bbl. daily, 1,275-1,305 ft., T.D. 1,311 ft.
James Roberts 5 Sicking, 22 bbl. in 12 hr., pumping natural, est. 55 bbl. daily, 1,280-1,303 ft.
James Roberts 6 Sicking, abandoned location.

Miscellaneous Pools

Archer County: G. W. Gilliland 1 Symank A, 15 bbl. in 24 hr., pumping, 1,418-34 ft.
Bridwell Oil 3 Bridwell D, dry at 1,700 ft.
H. D. Egger 1 Garvey, dry at 872 ft.
Baylor County: British American Oil 6 Tuberville, 94 bbl. oil and 19 bbl. water daily, pumping, 500 gal. acid, 2,547-50 ft.
Clay County: Akin, Dimock & Costley 4-A Taylor E, dry at 260 ft.
Gorman & Christie 2 Taylor, 75 bbl. in 24 hr., pumping, 1,130-42 ft.
Perkins & Cullum 8 Taylor A, 75 bbl. in 24 hr., pumping, 1,088-93 ft., 1,108-18 ft.
Geo. G. Golden 5 Enyart, dry at 375 ft.
Montague County: N. H. Martin & Son 6 King, dry at 1,624 ft.
Throckmorton County: Burk Royalty 5 Housley, 10 bbl. in 24 hr., pumping, 648-58 ft.
Combined Oil 2 Housley, 15 bbl. in 24 hr., pumping, 648-58 ft.
Combined Oil 5 Housley, 6 bbl. in 24 hr., pumping, 704-32 ft.
Wichita County: United Prod. 1 Cooper, dry at 1,352 ft.
Akin, Dimock & Costley 9 Dodson, 38 bbl. in 24 hr., pumping, 1,321-26 ft.
Ted Norwood 3 Leissler, dry at 1,340 ft.
Craig & Wilson 1 McKinley, dry at 720 ft.
Wilbarger County: James Blair Baker 3 Waggoner B, 10 bbl. in 24 hr., pumping, 10-qt. shot, 1,233-40 ft.
Young County: Geo. Keith, Jr., 1 Daily, dry at 592 ft.
Pemeta Oil 4-A Johnson B, dry at 554 ft.
Pemeta Oil 22 Johnson, dry at 557 ft.
W. F. Palmer 5 Marshall, 45 bbl. in 24 hr., pumping natural, 901-10 ft.
E. C. Jeffery 6 Hill, dry at 1,029 ft.
L. T. Burns 2 Bloodworth, 40 bbl. in 24 hr., 874-84 ft.
Jerome McLester 1 Seddon, dry at 3,805 ft.

NORTH TEXAS ACTIVE WILDCATS

Archer County: W. B. Hamilton 22 Cartwright, 660 ft. from W and S lines, James Webb Sur., Abst. 664, T.D. 5,211 ft., P.B. 5,164 ft., installing pumping unit.
Ted Norwood 1 Mankins, 2,190 ft. from N and 450 ft. from E lines Sec. 2, S.P.R.R. Sur. A-844, 1,850-ft. test, drilling 615 ft., first report.
Clay County: Bridwell Oil 1 Myers (old well drilling deeper), Charleton Thompson Sur., Abst. 444, top Mississippian 5,997 ft., old T.D. 6,065 ft., derrick to drill deeper.
Royal Pet. 1 Hatfield, 440 ft. from S and E lines W. G. Glass Sur., 6,000-ft. rotary test, first report.
Superior Oil 1 Seigler, 467 ft. from S and E lines of W 120-ac. tract, Sec. 3211, T.E.&L. Sur., 5,600-ft. rotary test, first report.
Jack County: F. Kirk Johnson 1 E. J. Shawyer, 660 ft. from S and 530 ft. from E lines of NW SE, J. Turner Sur., Abst. 609, 5,500-ft. test, running 10-in. casing 1,501 ft.
O. J. Perrin 1 Brumbelow, 1,045 ft. from S and 720 ft. from E lines, H. C. Ayers Sur., Abst. 4, S.D. at 3,577 ft.
Hill & Hill 1 Kinder, 467 ft. from E and 150 ft. from S, B.S.&F. Sur., Abst. 2351, 2,300-ft. cable-tool test, top Palo Pinto 1,070 ft., drilling 1,210 ft.
W. H. Carter 1 L. W. Carney, 2,256 ft. from N and 467 ft. from E lines John D. Rogers Sur., Abst. 501, running 8¼-in. casing, 2,275 ft.
Reed & Croft 1 Richards, 467 ft. from W and 1,200 ft. from N lines C. Gates Sur., Abst. 237, 3,500-ft. test, cellar and pits.
Alma Oil 1 Maxey, V. W. Maxey Sur., top Marble Falls 4,830 ft., top Mississippian 5,255 ft., drilling 5,385 ft.
Throckmorton County: Rathke Oil 1 Swagerty, 495 ft. from N and 746 ft. from E lines of SW Sec. 258, B.B.B.&C. Sur., top Mississippian 5,019 ft., drilling 5,088 ft.
Jimmie Rogers 1 Timmons, NW cor. S½ Sec. 2189, T.E.&L. Sur., 4,200-ft. test, S.D. 1,160 ft.
Helmerich & Payne 1 Housley, 660 ft. from S and E lines Sec. 300, B.B.B.&C. Sur., 4,200-ft. rotary test, location.
Young County: F. H. D. Co. and Fliming-Kimbell Corp. 1 Graham, SE cor. Sec. 2912, T.E.&L. Sur., 5,000-ft. test, top Marbie Falls 4,260 ft., top Mississippian 4,595 ft., drilling 4,651 ft.
Consolidated Oil 1 Dunigan, 467 ft. from S and E lines Sec. 163, T.E.&L. Sur., 5,000-ft. test, top Mississippian 4,898 ft., drilling plug 4,949 ft.
Shell 1-A Bloodworth, Sec. 151, T.E.&L. Sur., 6,200-ft. test, top Ellenburger 5,038 ft., show oil, treated 2,000 gal. acid, no results, preparing to perf. casing in Mississippian section.
T. D. Humphrev 1 Williamson, 1,537 ft. from N and 330 ft. from E lines Sec. 601, T.E.&L. Sur., testing.
R. P. Dorian 1 Daniels, 330 ft. from S and W lines Sec. 421, T.E.&L. Sur., 6,000-ft. test, drilling 3,765 ft.
Wrightsman Oil 1 Gilmore, 2,107 ft. from NE and 1,960 ft. from SE Sec. 3, B.B.B.&C. Sur., 2,600-ft. rotary test, top Palo Pinto 2,510 ft., setting casing at 2,701 ft.
Tom B. Medders 1 J. W. Daws, 933 ft. from N, E, S, and W lines of NW¼ of T.E.&L. Sur. 750, 5,500-ft. test, location.

New Pool in Taylor County Between Dunigan and Wimberly

FORT WORTH, Tex., June 30.—The discovery of a new pool in Taylor County added importance to the district and prompted increasing activity along the Jones-Taylor county line. The discovery well is the W. H. Peckham 1 Buel Perry, 330 ft. out of the NW cor. of Lot 5, League 124, Grimes County school lands, 5 miles northeast of Merkel on a line midway between the Dunigan pool in Taylor County and the Wimberly pool in Jones County.

On official Railroad Commission gage the well pumped 70 bbl. in 24 hours from 13 ft. of sandy lime pay in the Dothan formation, the first commercial production from that horizon in the area. Pay section was from 2,006-19 ft., total depth.

At the close of the week several new tests were in prospect along the southwestern Jones and northwestern Taylor County line extending from Tye to the Wimberly area. Less than 2 miles southeast of the new

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*Official comparative statistics for 1940, as published by Dr. Frederic H. Lahee, show that wells drilled by use of Geophysics resulted in 100 Producers and 446 Dry Holes (approximately 4½ to 1) —wells drilled by sundry non-technical information resulted in 35 Producers and 797 Dry Holes (approximately 23 to 1).

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discovery, Lewis Production Co. will spud 2 Henslee, 330 ft. from the S and 990 ft. from the E lines of the J. A. Nabors Survey 10.

Wimberly Outpost Produces Oil and Water in New Pay

W. D. Brookover and H. W. Lee 1 W. L. Church, west extension to the Wimberly pool, pumped and flowed 245 bbl. oil and 132 bbl. water in 24 hours on official Railroad Commission gage. Opening the second producing horizon for the pool, 1 Church had pay at 2,433-46 ft. and encountered water in deepening to 2,448 ft. The outpost is located in the SE cor. of Godwin Subdivision 88, DeWitt County School Land Survey.

Avoca Extension Indicated In Palo Pinto Lime

A second important extension to the Avoca pool this year is expected in the M. J. Delaney 10 L. Short, SW¼ Section 191, B.B.B.&C. Survey. The outpost cored saturated Palo Pinto lime from 3,240-45 ft. and has cemented casing for test. No. 10 Short is located ½ mile northwest of production. Earlier this year, King Oil 1 Olsen extended the pool more than a mile to the north.

WEST CENTRAL TEXAS COMPLETIONS

Fields

Buff Creek, Shackelford County: Hickok & Reynolds 1-A Swenson, 83 bbl. in 24 hr., 1,522-24 ft.
Crosscut, Brown County: C. L. Wenn 6 Willis, 5 bbl. in 24 hr., pumping, 1,261-63 ft., T.D. 1,280 ft.
Putman, Callahan County: Walker & Mounce 1 Thomason, dry at 598 ft.
John W. Hooser 2 Mobley, dry at 600 ft.
Sayles, Jones County: Johnson and Ungren & Frazier 7 Sayles, 102 bbl. in 24 hr., 10-qt. shot, 1,912-34 ft.

Miscellaneous Pools

Callahan County: Clark & Young 4 Diller Bros., 4 bbl. in 24 hr., pumping 436-42 ft.
Shackelford County: R. H. Roark 5 Elliott, dry at 840 ft.

WEST CENTRAL TEXAS WILDCATS

Brown County: Claude Campbell 1 J. D. Smith, 330 ft. from N and 1,215 ft. from W lines Waco Mfg. Co. Sur., Sec. 1, 1,000-ft. test, spudded.
Harry E. Murray 1 Fry, 900 ft. from NE and 900 ft. from NW lines John Williams 33, 1,400-ft. cable-tool test, top Ellenburger 1,222 ft., drilling 1,227 ft.
Callahan County: Ungren & Frazier 1 Russell, 360 ft. from N and 1,000 ft. from W lines Sec. 118, B.B.B. &C. Sur., 1,250-ft. test, coal 1,242-49 ft., drilling 1,277 ft.
Coleman County: West Coast Prod. Corp. 1 Morris, SW cor. of NE 160 acres, J. Greenwood Sur. 308, underreaming 5½-in. casing 2,754 ft., T.D. 2,803 ft.
States Oil 1 Sealy & Smith, NE 160 acres of J. Greenwood Sur. 304, drilling 1,800 ft.
McKissick & Robertson 1 Finley, 467 ft. from S and 934 ft. from W of SW cor. Sec. 22 but in Sec. 45, T.&N.O. Sur., Blk. 2, 3,500-ft. rotary test, drilling 2,650 ft.
States Oil 1 O. B. Featherstone, 467 ft. from N and W lines M. J. Gable Sur. 118, 3,600-ft. rotary test, first report.
Eastland County: Sabens & West 1 Hall, on section line between Secs. 100 and 93, Blk. 3, H.&T.C. Sur., 3,500-ft. test, drilling below 700 ft.
Dobbs Oil 1 Hightower, NE SE Sec. 4, Blk. 3, H.& T.C. Sur., 3,100-ft. test, drilling 2,100 ft.
Bryan & Stewart 1 Hall, 330 ft. from N and E lines SE Sec. 46, Blk. 2, H.&T.C. Sur., drilling 1,400 ft.
Thomason & Heydrick 2 W. I. Beal, 150 ft. from N and W lines SW¼ of SE¼ of J. W. Clifton Sur. A-187, 750-ft. cable-tool test, first report.
Sims Drilling Co. 1 E. A. Vernon, E 80 acres NE Sec. 9, Blk. 2, H.&T.C. Sur., 1,500-ft. test, drilling 1,492 ft.
Hamilton County: Lone Star Gas Co. 1 Burks, 1,654 ft. from NE and 1,175 ft. from NW lines James Hayes Sur. 16, Pat D-705, 3,000-ft. test, top Marble Falls 2,565 ft., perf. casing 2,654-74 ft., 2,609-19 ft., 2,585-95 ft., 1,000 gal. acid, retesting at 2,712 ft.
Jones County: M. C. L. Corp. 1 M. A. Swanson, 467 ft. from W and 660 ft. from N lines Sec. 187, B.B.B. &C. Sur., 3,300-ft. rotary test, drilling 440 ft.
W. D. Brookover 1 W. C. Church, SE cor. Lot 88, Godwin subdivision of DeWitt C.S.L. Sur., 2,600-ft. test, bottomed at 2,438 ft., pumped 80 bbl. oil and est. 80 bbl. salt water in 7 hr., T.D. 2,446 ft.
M. J. Delaney 1 Short, 467 ft. from S and E lines of SW Sec. 191, B.B.B.&C. Sur., 3,300-ft. rotary test, show oil 1,825-50 ft., drilling 2,345 ft.
Shackelford County: Aragon Oil 1 Walls Pasture, SW cor. Sec. 39, B.A.L. Sur., 4,000-ft. test, pulling on stuck 8¼-in. casing 2,940 ft.
Kleiner & Dickey Bros. 1 Miller, NW cor. Sec. 571, T.E.&L. Sur., 750-ft. test, S.D. 190 ft.
R. H. Roark 1 Elliott, SW SW SE Sec. 9, L.A.L. Sur., 5,000-ft. test, drilling 2,154 ft.
L. P. Blosser 1 J. B. Mathews, 750 ft. from S and 150 ft. from W lines Sec 35, B.A.L. Sur., 700-ft cable-tool test, first report.
R. H. Roark 1 Diller Bros., 1,170 ft. from SE and SW lines Sec. 564, T.E.&L. Sur., 1,000-ft. test, moving in spudder.
Eason Oil 1 J. H. Nail, 220 ft. from S and W lines Sec. 125, E.T.R R. Sur., 1,500-ft. cable-tool test, first report.
Somervell County: Plymouth Oil 1 Cousins, 457 ft. from SE and NE lines of tract in John Echols Sur., 7,500-ft. test, S.D. 3,060 ft.
Stonewall County: Hunter Roberts & Shouts 1 Boyd, 660 ft from S and E lines of NW Sec. 28, Blk. D, H.&T.C. Sur., drilling 2,680 ft.
Taylor County: Ce-Beth Oil 1 City of Abilene, south shore of Lake Abilene on city property, 4,000-ft test, S.D. 3,600 ft.
W. H. Peckman 1 Perry, 330 ft. from N and W lines Lot 5, Lge. 124, Grimes County School Lands Sur., hole filled 700 ft. oil in 16 hr., T.D. 2,019 ft.

Powder Wash, Colo., Outpost Looks Like Producer

By T. R. INGRAM

DENVER, Colo., June 30.—Sinclair-Wyoming Oil Co., which operates approximately 5 per cent of the productive acreage in Salt Creek, is expected to become a member of the Salt Creek unit at an early date. Negotiations are pending, but before deal can be closed, application must be accepted by all members of the unit and approved by the secretary of the interior, and this probably will require several months. This will leave only three tracts, one well each, outside the unit.

Mountain Fuel Supply 3-A Musser, which will mean nearly a mile extension of the oil pay in the Powder Wash field, Colorado, apparently has succeeded in shutting off water and looks favorable for a producer.

SUMMARY OF COMPLETIONS

Colorado

	No.	Bbl.	Footage
Oil wells: Fields	1	196	2,534

Wyoming

	No.	Bbl.	Footage
Oil wells: Fields	2	175	5,975
Dry: Fields	1		250
Total	3		6,225
Recompletions	1	650	

Montana

	No.	Bbl.	Footage
Oil wells: Fields	1	90	2,854
Dry: Fields	2		3,612
Total	3		6,466

Western Petroleum 1 Mosier, a wildcat southeast of Lance Creek, had another show of wet gas in the upper Sundance and continues to look favorable for a discovery.

Cole Creek was extended ¼ mile to the south in General Petroleum No. 31-27-P, completed in the Shannon for 150 bbl.

Dunkirk Adventure 1 McKechnie, wildcat south of Kevin-Sunburst field, was dry in the Sunburst and the contact, but is drilling deeper in hope of picking up a break in the lime.

COLORADO COMPLETIONS

East Hiawatha, Moffat County: Mountain Fuel Supply 8-A Florence Wilson, C SE NE 22-12n-100w, pumped 196 bbl. from middle sand at 2,238-85 ft. in Wasatch formation, through perf. 7-in., T.D. 2,534 ft.

COLORADO DRILLING REPORT

El Paso County: F. F. Hintze 1 State, CEL SE SE 16-11s-60w, drilling 2,170 ft.

Huerfano County: S. W. Pressey 6 Ojo, NW NW NW 11-29s-69w, spudding 410 ft., first report, Oak View district.

S. W. Pressey 3 Alamo SW SW NW 10-27s-68w, spudding 390 ft., first report, Alamo district.

Rheym & Tomkins 1 Two Pines, SE SE 31-28-69w, drilling 900 ft., first report, Ojo district.

Moffat County: Mountain Fuel Supply 3-A Musser, CNL NW SW 5-11n-97w, T.D. 5,700 ft., 7-in. at 3,697 ft., testing through perforations at 5,276-82 ft.

Privett & Spangler 1 Stillings, NE SE SE 12-5n-96w, drilling 200 ft.

Rio Blanco County: Texas-California 6 Unit, NW NE SE 27-3n-94w, drilling 6,487 ft.

Buford Oil 1 Government, C SW SW 16-1n-91w, correction, old T.D. 4,375 ft. in Amsden sand, deepened to 4,387 ft. in gray dolomite, show of oil, will dry up before drilling into Madison.

WYOMING COMPLETIONS

Cole Creek, Natrona County: General Petroleum 31-27-P (Nicolaysen), NW NE NW 27-35n-77w, pumped 150 bbl. at 4,594 ft., T.D., from Shannon sand at 4,562-94 ft., 5½-in. at 4,557 ft.

Lance Creek, Niobrara County: Continental 3-A Schuricht, C SW NW 5-35n-65w, flowed 27 bbl. an hour at 5,272 ft., T.D., from Leo sand, 5-in. at 5,220 ft., top first Leo 5,020 ft., old well deepened from Sundance at 3,824 ft.

Osage field, Weston County: Minnoming Oil 5, SE SE SW 12-46n-64w, pumped 25 bbl. a day from sand at 1,380-1,418 ft.

Wheedon Oil No. 33, NW NW SE 16-46n-63w, dry at 250 ft.

WYOMING DRILLING REPORT

Big Horn County: Ohio 2-A Hoskins, SE SE SE 15-56n-97w, drilling 3,873 ft.

Campbell County: Continental-Texas Gulf 1 Knapp, NE SW SE 4-56n-69w, drilling 4,830 ft.

Laramie County: Indian Hills Oil 1 Harding, C NW NW 17-18n-65w, moving in slim rotary, contract to Garetson-Knisely Co., first report, Indian Hills structure, Horse Creek area.

Lincoln County: K. M. P., Inc., 1 State, NE NE NE 36-25½-115w, T.D. 2,106 ft., preparing to run 10-in.

Natrona County: General Petroleum 3-16-S (State), NW SW NW 16-35n-77w, drilling 3,500 ft.

Stanolind 1-SD-3, NE NE SW 26-40n-79w, formerly No. 1-L, T.D. 2,465 ft., cleaning out to deepen from Lakota to Sundance sand.

Casper Creek Oil 1 State, SW SW NW 36-36n-81w, T.D. 2,612 ft., preparing to run 6¼-in.

K. S. Albert 1 Young, C NE SE 25-32n-82w, drilling 1,510 ft., 6⅝-in. at 1,280 ft., Frontier sands at 1,150-1,204 ft., 1,231-59 ft., 1,280-1,347 ft.

Niobrara County: Ohio 10 A. Rohlff, SW NE 32-36n-65w, drilling 1,468 ft., 11¾-in. at 303 ft.

Ohio 6 Converse Sheep, NE SW SW 32-36n-65w, T.D. 5,456 ft., cemented 5-in. at 5,317 ft., on top fourth Leo, which showed water, will perforate and test.

Western Petroleum 1 Mosier, SW SW 31-35n-64w, drilling 545 ft., show wet gas in upper Sundance at 511-34 ft.

Park County: Texas 5 Sonners, SE NE NE 30-51n-100w, T.D. 3,460 ft., 8⅝-in. 3,288 ft., acidized 2,000 gal., testing.

Enalpac Oil & Gas 1 Purple-O.P.C., SE SE 31-51n-100w, building derrick, first report, Oregon basin.

Sublette County: Texas 1-L Government, SW SW SW 27-27n-113w, drilling 700 ft.

Marvel Oil 1-A Government, NE 33-27n-113w, drilling 411 ft.

Marvel Oil 1-L Government, SE SE SE 28-27n-113w, T.D. 1,197 ft., P.B. to test sand at 1,130-55 ft.

Charles Lackey 1 Government, NE SE SW 33-27n-113w, running 5½-in. to bottom at 1,650 ft.

Sweetwater County: Rocky Mountain Drilling 1 State, SW SW SW 36-20n-104w, T.D. 6,447 ft., fishing for drill pipe.

West States Pet. 1 Unit, C SE SE 10-12n-101w, Canyon Creek, rigging rotary.

Gus Pongratz 1 Clark, C NW NE 22-14n-104w, drilling 5,318 ft.

Sinclair-Wyoming 101-A, NW NW NW 11-26n-90w, drilling 2,819 ft., top Sundance 2,113 ft.

Sinclair-Wyoming 100-A, NE NE NE 10-26n-90w, drilling 4,163 ft.

Mountain Fuel Supply 2 Newberger, SW NW NW 18-12n-99w, cemented 10¾-in. at 275 ft.

Sinclair-Wyoming 102 Lost Soldier, SE SE SE 3-26n-90w, location, first report.

Vermillion Oil 1 Government, SW NE NE 6-12n-99w, drilling 903 ft.

Weston County: John Brorphy 1 Hansen, NW NE NW 13-44n-63w, drilling below 3,200 ft.

W. H. Connor 3 State, 36-42n-62w, drilling 100 ft., first report.

Updike Brothers 2 Government, NW SW NE 35-46n-64w, rigging up, first report.

George Keisling 2 Guyer, SW SW SE 26-46n-64w, rigging, first report.

Pierre La Fleishe 1 Dober, NW NW NE 21-45n-63w, drilling below 2,800 ft.

MONTANA COMPLETIONS

Cut Bank, Glacier County: Anderson 4 Anderson, NW SW NE 26-35n-6w, swabbed 90 bbl. at 2,854 ft., T.D., from Cut Bank sand at 2,805-49 ft., main pay at 2,835-49 ft., no Sunburst sand.

Kevin-Sunburst, Toole County: Big West Oil 1 Carlson, NE NE NE 22-35n-3w, 1,000 ft. of water in contact at 1,850 ft., plugged and abandoned.

J. H. Agen 16 Goeddertz, CNL SE NW 23-35n-3w, abandoned at 1,762 ft. after shot and acidizing.

MONTANA DRILLING REPORT

Blaine County: Montana-Dakota Utilities 1 Cole, NW NW NW 11-31n-19e, location, first report, Bowes gas field.

Fallon County: Carter 1 Northern Pacific Unit, C SE SW 19-4n-62e, drilling 6,157 ft.

Garfield County: California Co. 4 Charles, C SE NW 21-15n-30e, drilling 4,858 ft.

Glacier County: Ralph N. Davis 1 Tribal, NE NE NE 25-32n-6w, spudded.

Glacier Prod. 1 Walburger Unit, SW SW NE 18-33n-4w, drilling 660 ft., top Colorado 363 ft., 10¾-in at 410 ft.

Consolidated Gas 1 Frary-Tribal-208, NE NE SW 19-32n-5w, rig.

Par Oil 1 Tribal-200, NE NE SE 13-32n-6w, drilling 355 ft.

R. C. Jeffries 1 Tribal-201, NE SE NE 30-32n-5w, drilling 675 ft., top Colorado 430 ft., 10¾-in. at 450 ft.

K. D. Pardee 1 Tribal-210, SW SE NW 13-32n-6w, drilling 940 ft., top Colorado 610 ft., 10¾-in. 620 ft.

Texas 1 Government, C NW SW 8-32n-5w, cemented 10¾-in. at 610 ft., top Colorado 570 ft.

Pioneer Lumber 1 Anderson, NW NE NW 31-32n-5w, spudded.

Ralph N. Davis 1 Tribal-205, NE NE NE 25-32n-6w, drilling 900 ft., top Colorado 610 ft., 10¾-in. at 630 ft.

Hill County: A. B. Cobb 1 Government, SE SE NE 19-27n-15e, T.D. 4,341 ft., top Madison 4,150 ft., running 7-in. to 4,110 ft., to acidize and test.

Edwards & Callison 1 Hansen, SW SE NW 25-33n-15e, cemented 7-in. on bottom at 1,205 ft.

Liberty County: Montana-Dakota Utilities 1 Oswood, C NE SW 18-35n-4e, drilling 1,781 ft., 8-in. at 1,756 ft.

Western Natural Gas 1 Herbert, 28-37n-4e, cemented 7-in. at 1,643 ft.

Teton County: R. C. Tarrant 1 Kellogg, SW NW NE 33-27n-5w, S.D. 2,580 ft.

Toole County: Huso Brothers 2 Ellingson, C SE SE 14-35n-3w, drilled into water at 1,806 ft., will P.B. to 1,780 ft. and test.

Dunkirk Adventure 1 McKechnie, NW SW SE 2-31n-1w, drilling 1,784 ft., Sunburst at 1,506-08 ft., and contact at 1,750-55 ft., dry.

Bosworth & Shubat 1 Lukenbill, C SW NE 11-36n-2w, drilling 740 ft., first report.

UTAH DRILLING REPORT

Daggett County: Mountain Fuel Supply 1 Sparks, SW SW SE 23-3n-24e, coring at 6,016 ft. in Dakota sand.

Summitt County: Longwell Pet. 1, SE SW SE 35-3n-5e, drilling 3,802 ft.

Nebraska

(Continued from Page 49)

which was drilling below 900 ft. The test is to go to 4,200 ft. or the granite. The same operators were also reported to have made location for another test in 1n-18w.

NEBRASKA COMPLETIONS

Wildcats

Morrison & Noah 1 Alter ..... SE SW 28-1n-22w Dry, T.D. 3,652 ft., granite 3,635 ft., Fort Hays 480 ft., Dakota 910 ft., Permian 1,590 ft., anhydrite 1,880 ft., Arbuckle 3,610 ft., Furnas County.

Kees et al 1 Kiechel ..... SE SE SE 4-5n-13e Dry, T.D. 2,425 ft., Lansing 970 ft., base Kansas City 1,280 ft., Mississippi 1,884 ft., Hunton 2,245 ft., Nemaha County.

Fields

Falls City, Richardson County: Ohio 1 Sibbernsen, C S½ SW 17-1n-16e, flowed 894 bbl. in 11 hr., Hunton deep zone 2,280-85 ft., perf., potential 1,920 bbl.

NEBRASKA DRILLING REPORT

Furnas County: Trickett 1 Gossic, NW NW NW 33-2-21w, 12-in. 965 ft.

Gage County: Walt Rider 1 Warren, NE NE 21-3-5e, St. Peter 2,753 ft., pre-Cambrian 2,820 ft., 5-in. 2,770 ft., T.D. 2,858 ft., P.B. 2,630 ft., 5-in. 2,598 ft., at 2,608 ft. H.F.W., set plug 2,350 ft., no shutoff, set plug 2,346 ft., no shutoff.

Nelson 1 Ideus, W½ E½ SW 5-3-7e, drilling 200 ft.

Harlan County: Veeder Supply and West 1 Battin, N½ SE NW 15-2n-18w, 10-in. 197 ft., drilling 900 ft.

Keith County: Keys 1 Haythorn, C SW 27-16n-39w, cleaning out 810 ft.

Nemaha County: Bow & Arrow 1 Wrightsman, W½ SW NW 36-6-14e, moving in rotary at 1,574 ft.

Continental Petroleum 1 Gauchat, SW NW NE 26-6n-13e, Hunton 1,986 ft., fishing 2,004 ft.

Richardson County: Eckert-Powers 1 Albin, SW NW SW 10-1-14e, S.D. 990 ft.

Valley County: Bredthayer & Taylor 1 Bookwalter, NW SW 29-18n-13w, 10-in. 520 ft.

WILDCAT DRILLING REPORT

Western Kansas

Barber County: Pryor & Lockhart 1 Ishmael, S½ SE SW 35-34-11w, good stain 4,698-4,709 ft., base Mississippi 4,764-4,815 ft., T.D. 7-in. 4,612 ft., filled 3,500 ft. water in hole, drilling 4,875 ft.

Barton County: Armer & Vernon 1 Redtzke, S½ SW NW 5-16-11w, Topeka 2,655 ft., drilling 2,815 ft.

Olson Oil 1 Oltman, NE NE SW 15-17-13w, Neva 2,155 ft., Topeka 2,740 ft., Lansing 3,128 ft., spotted stains 3,145-46 ft., cored 3,146-50 ft. and 3,171-76 ft., no show, drilling 3,205 ft.

Branine & Holl 1 Rexroot, E½ NE SE 22-17-13w, 7-in. 2,620 ft., drilling 2,885 ft.

Helmerich & Payne 1 Roth, W½ NW SW 30-19-11w, Arbuckle 3,377-85 ft., slight saturation and porous, 5-in. 3.375 ft., standard tools 3,385 ft., T.D. 3,387 ft., acid, bailed 1 bbl. oil in 4 hr.

Isern 1 Laudick, S½ SE NW 28-16-12w, anhydrite 800 ft., Fort Riley 1,770 ft., Florence 1,870 ft., drilling 2,550 ft.

Butler County: Plymate 1 Falk, SW SW NE 14-29-3e, 12-in. 605 ft.. S.D. 1,280 ft.

Cowley County: Mead Production 1 Wright, NW SW SW 35-33-3e, first report.

Steinbuchel 1 Peck, N½ NW SE 23-34-5e, drilling 960 ft.

Marlyn 1 Mosier, NW NW SW 21-34-7e, 15-in. 40 ft.

Dickinson County: Jones 1 Kuhn, E½ E½ SE 6-16-4e, drilling Mississippi lime 2,328 ft., 6-in. 2,329 ft.

Elk County: Allison 1 Porter, NW NE NW 25-28-8e, drilling 500 ft.

Graham County: Cities Service 1 Gordon, SE NE NW 1-8-22w, drilling 2,755 ft.

Greenwood County: G. A. Fuller 1 Baker, E½ NE SW 17-26-13e, first report.

Kearny County: Stanolind 1 Patterson, E½ SE SE 23-22-38w, cored 2,715-33 ft., no show, Fort Riley 2,833 ft., cored 2,843-61 ft., no show, drilling 3,430 ft.

Marion County: Basinger 1 Janseen, NE NE SE 9-21-3e, S.D. 90 ft.

McPherson County: Westgate-Greenland 1 Rosander, E½ SW SW 33-17-2w, drilling 2,650 ft.

Norton County: Helmerich & Payne 1 Hewitt, S½ SE NE 11-4-21w, Topeka 3,194 ft., drilling 3,239 ft.

Shaffer 1 Vanmayrhauser, N½ NW NE 26-5-22w, Topeka 3,140 ft., Lansing 3,355 ft., some show oil 3,440-65 ft., granite 3,690 ft., S.D. 3,722 ft.

Lario 1 Lynch, S½ SE SW 24-4-20w, cored porous dolomite, good saturation 3,250-55 ft., cored 3,255-60 ft., some saturation, base Kansas City 3,381 ft., Arbuckle 3,470 ft., cored sandy shale and dolomite 3,473-78 ft., cored 3,478-88 ft., no show, basal sand 3,553 ft., granite 3,594 ft., drilling 3,740 ft.

Wire Rope

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PROPER INSTALLATION ESSENTIAL

In the production of steel, coal, oil, lumber and other key industries producing for National Defense—Wire Rope is a necessity. Also, it is vital that these industries avoid delays and repairs—that they get maximum service from all equipment. Thus, for greater speed and efficiency, we recommend that inspections be made more frequently, and conditions governing the life of Wire Rope be studied more carefully at this time.

Worn Equipment Takes Life From Wire Rope

In an otherwise properly designed piece of machinery, there is nothing quite so detrimental to rope life as worn equipment.

As a rope is used, it becomes smaller from (1) the pulling down of the core allowing a further seating of the strands, and (2) from abrasion, wearing off some of the outer surface of the wires. Both reduce the diameter causing higher *unit* pressure of rope on sheave.

NO GO

The sheave groove gradually wears smaller in diameter so that frequently the worn groove diameter is smaller than the next new oversized rope. The pinching effect of the worn groove on the rope is very detrimental, causing a restriction of strand movements which would otherwise adjust themselves while bending.

This cut shows the early failure of the rope because of excessive pinching, this rope lasting only 1½ hours under the usual operating stress.

Besides wearing the groove, there is also the wearing of the sheave hub, causing a wobbling of the sheave, allowing flange wear on the rope, which might also throw out the rope reeving alignment.

Therefore, before installing a new rope, check all grooves with a set of groove gauges which are the actual size of the oversized rope. These gauges should seat all the way to the bottom of the groove.

Inspect for wobbly sheaves with worn hub bearings. Replacement or remachining worn parts is essential if good rope life is to be expected.

For further information on the above, write for "Rope Dope," our educational bulletin which is published at frequent intervals.

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JUST GO

UNION Wire Ropes

The "ULTIMATE LOW COST WIRE ROPE"

Phillips County: Lario 1 Bard, S½ SE NW 27-3-20w, first report.
Reno County: Simpson 1 Snowbarger, SW SE NE 21-23-10w, anhydrite 446 ft., drilling 2,104 ft.
Central 1 Dyck, W½ NW SW 4-22-4w, drilling 1,785 ft.
Rice County: Bronson 1 Brown, W½ NW SW 2-19-9w, drilling 2,180 ft., 10-in. 1,537 ft.
Rooks County: Clay 1 Anderson, W½ SW SW 28-9-16w, Arbuckle 3,569 ft., T.D. 3,590 ft., P.B. 3,330 ft., acidized at 3,412 ft., some show oil, more acid, no help, more acid, swabbed 13 bbl. water an hr., P.B. 3,344 ft., ripped 3,322-26 ft., bailed 14 bbl. water and 10 gal. oil an hr.
Cities Service 1 Ervay, SE SE SE 2-10-16w, first report.
Russell County: Falcon-Seaboard 1 Stevens, E½ SW SW 3-13-14w, drilling 450 ft.
Cities Service 1 Beisel, NE NE NW 15-14-12w, Arbuckle 3,315-40 ft., 4½-in. 3,301 ft., shot 3,050-64½ ft., 2,940-51 ft., and 3,013-27 ft., water 3,013-24 ft., bailed 2 bbl. water an hr. and some show oil, S.D.
Central 1 Steinlie, N½ NW NE 29-15-12w, drilling 382 ft.
Scott County: Atlantic 1 Smith, NE NE 34-19-33w, first report.
Stafford County: Stanolind 1 Ahnert, E½ NE SE 26-22-13w, Viola 3,655 ft., Simpson 3,689 ft., Arbuckle 3,745-48 ft., gas and show oil, cored dolomite with fair saturation 3,748-52 ft., 5-in. 3,746 ft., T.D. 3,752 ft., 700 ft. oil in hole in 5 hr., gravity 28, swabbed 4 bbl. an hr., acid, swabbed 15 bbl. oil an hr., cored 3,749-54 ft., coring 3,765 ft.
Thomas County: Alva Billings 1 Ryan, E½ NE SE 27-8-32w, Lansing 4,283-97 ft., gas show oil, shot 4,268-83 ft., bailed 1 bbl. fluid an hr., mostly water, dumped 17 sacks cement.
Woodson County: W. R. Jenner et al 1 Hastings, E½ SE NW 24-26-13e, first report.

Northeastern Kansas

Brown County: McAlpine 1 Tyler, NE SW SW 4-3-15e, S.D. 1,350 ft.
Doniphan County: Plymate & Bornholdt 1 Elliott, E½ SE SW 31-3-20e, Viola 2,632 ft., Arbuckle 2,898 ft., T.D. 2,950 ft.
Douglas County: Meinholdt & Edwards 1 Stanley, NW NE NW 3-14-21e, drilling 2,249 ft.
Epperson 1 Howard, SE NW 25-13-19e, some show oil 722-29 ft., Squirrel 770 ft., Bartlesville 915 ft., Burgess 1,170 ft., H.F.W., Mississippi lime 1,197 ft., drilling 1,206 ft.

Oklahoma Fields

(Continued from Page 52)

per cent salt water in 13 hr., flowed average 15½ bbl. oil an hr., gravity 41.2, flowed 13 bbl. oil an hr. and 25 per cent salt water.
Okfuskee County: Walker & Sexton 1 Hilderbrandt, NW NE NE 19-10-11, drilling 773 ft.
Shelton 1 Armstrong, SE SE NW 3-11-10, old well shut in Nov. 12, 1940, cleaning out to T.D. 3,394 ft., filled up 3,375 ft. of fluid, swabbed and flowed 25 bbl. in 6½ hr., swabbed and flowed 45 bbl. in 24 hr. through 2½-in. tubing with packer set at 3,019 ft., cleaning out tubing, 7-in. 3,308 ft.
Texas 1 McKernan, N¼ NW SW 15-12-9, Wapanucka-Cromwell zone 3,283 ft., T.D. 3,304 ft., flowed 112 bbl. in 24 hr. through casing, 7,000,000 cu. ft. gas, testing.
Oklahoma County: Harper-Turner 1 Kunc, NW SW NW 33-14-2w, first report.
Osage County: Keener 1-A Osage, SW SW NW 10-22-9, S.D. 1,250 ft.
Black Jack 1 Osage, NE NE SW 29-25-7, drilling 1,230 ft.
Devonian 1-A Osage, SW SW NE 34-22-7, drilling 190 ft.
Swartz 3-A Osage, SW SW NE 16-23-9, drilling 570 ft.
Pottawatomie County: Sharpe 1 Billington, NW SE SE 21-9-4, Sylvan 4,400 ft., Viola 4,490 ft., Dense 4,550 ft., dolomite 4,585 ft., Wilcox 4,636 ft., cored dense lime 4,545-52 ft., cored slightly stained dolomite and saturated sand 4,638-48 ft., electrical log showed good porosity 4,632-40 ft., T.D. 4,640 ft., 5¼ in. 4,634 ft., squeezed 75 sacks, drilled plug, T.D. 4,640 ft., salt water, P.B. 4,597 ft., perf. 4,500-40 ft., acid, swab 375 bbl. in 36 hr., testing.
Lippert 1 Rosebush, NE SE SW 34-10-3, drilling Hogshooter 3,275 ft., Dewey 3,365 ft., drilling 4,130 ft.
Seminole County: Helmerich & Payne 1 School land, NW NW NE 16-7-5, Calvin 2,795 ft., dolomite 4,050 ft., show oil 4,063-68 ft., 900 ft. oil in hole at 4,091 ft., acid, swabbed 20 bbl. oil on short test, fell off fast, deepened to 4,093 ft.
Winona 1 Heller, NE NE NE 25-10-7, stained lime 3,551-56 ft., 7-in. 3,553 ft., Cromwell sand 3,556-57 ft., gaged 24,000,000 cu. ft. gas at 3,559 ft., gaged 62,000,000 cu. ft. gas and some show oil at 3,572 ft., T.D.
Mico 1 Kidd, NE SW SE 33-10-8, Cromwell 3,716 ft., T.D. 3,746 ft., 5½-in. 3,400 ft., top plug 3,422 ft., shot 3,385-3,429 ft., no show, S.I. 3 days, hole full fluid, tested mostly water, S.D. 3,746 ft.
Shell 1 Keyes B, SW SW NE 22-11-8, Hunton 4,084 ft., show oil 4,128-50 ft., Sylvan 4,174 ft., Viola 4,264 ft., Dense 4,294 ft., first Wilcox 4,310-14 ft., no show, second Wilcox 4,335 ft., cored stained sand 4,336-47 ft., looked like dead oil, electrical log. ½ bbl. oil and 1 bbl. water an hr. at 4,347 ft., drilling 4,359 ft.

Southwestern

Caddo County: Texas 2 Smith, SE NW 2-5-12w, D.S. test 3,388 ft., flowed 125 bbl. in 55 min. from Simpson Bromide, blew out between 7-in. and 13⅜-in. casing from Hunton, est. 25,000,000 cu. ft. gas, rebuilt derrick to kill well by perf. 7-in. casing, installing control head.
Olson 1 Ka-Way-Kla, SE NE NW 28-6-11w, drilling 3,697 ft., red beds.
Garvin County: Ohio 1 Feaster, NW NW SE 13-3-1, Oil Creek 3,510 ft., Arbuckle 3,980 ft., some show gas 3,893-3,909 ft., drilling 4,322 ft.
Alma 1 Wringer, NW NW NW 2-3-3, spud 40 ft.
Kiowa County: Mathews-Lewis 1 Brazell, NE NE NE NE 33-7-17w, drilling 595 ft., red beds.
Thomasson 1 Baker, NW NE NW 7-6-18w, S.D. 87 ft.
Love County: Magnolia 1 Watson, SW SE NW 12-7s-2e, drilling 2,435 ft. in shale and shells.
Batson 1 Walden, NE NW NW 34-6s-2e, Sylvan 2,145 ft., Viola 2,180 ft., lime show oil 2,225-32 ft., drilling 2,597 ft.

TEXAS GULF COAST

Wilcox Trend Pays at Two Outposts and Deep Test

By NEIL WILLIAMS

HOUSTON, Tex., June 30.—The Texas Gulf Coast sector of the Wilcox trend was holding the attention of operators as preparations were being made to test an important outpost well in the newly opened Lake Creek field, Montgomery County, and a south outpost well in the Segno field, Polk County, was showing promise of opening deep production in the Wilcox zone. Other developments of interest included the announcement of two important deep wildcat locations in Montgomery and Walker counties, and the running of casing in a deep test located in the Brushy Creek area, Lavaca County.

Approximately 4,000 ft. southwest of the discovery well of the Lake Creek field, Montgomery County, Superior Oil Co. of California 2 McWhorter, T. J. Nichols Survey, is bottomed at 9,980 ft., and casing is being cemented for a production test. An electrical log is reported to have shown the following sands: Thirteen ohms from 9,448-62 ft.; 15 ohms from 9,525-60 ft.; 16 ohms from 9,654-72 ft., and 15 ohms from 9,745-79 ft. Other showings of oil and gas are reported to have been logged at intervals from 8,600 to 9,200 ft., and the well is said to be checking about normal with the discovery well which was completed as a gas distillate producer in sand at 9,200 ft. The same company has staked location for 3 McWhorter, 2,000 ft. southwest of the present well which offers encouragement of production in this direction.

In the same county to the southeast in the Taminia area, B. D. MacDaniel 1 Hattie Baldwin is reported to be fishing for tubing which dropped in the hole while it was being pulled following a test above 9,925 ft. from which the well flowed wash water with slight discoloration for 1½ hours, and then started showing salt water.

North of the Splendora gas field in the Fostoria area, eastern part of the county, Atlantic Refining Co. has let contract for a 10,000-ft. Wilcox test to be drilled on the Foster Lumber Co. lease in the P. Gill Survey. Actual measurements are 1,980 ft. south and 660 ft. west of the northwest corner of the M. B. Lawrence Survey.

Deep Wilcox Sand Play Opens New Zone at Segno

On the south edge of the Segno field, Polk County, Gulf 48 S. F. Wing is showing promise of opening production from a deeper sand section in the Wilcox as sand and sandy shale showing gas was cored at intervals from 10.091-10,172 ft. Total depth is 10,300 ft., and 7-in. casing was cemented as protection at 10,297 ft. Plug is being drilled and the well is expected to be drilled several hundred feet deeper. Production in this field was originally found in the Cockfield sand at 5,100-5,200 ft., but more recently development has been confined to the Wilcox which was found in 1937 at 8,000-8,100 ft. Deeper drilling in fields which already produce from the Wilcox has been encouraged by the discovery of deeper sands at the Sheridan field, Colorado County, and at Lake Creek where production has been found over 1,000 ft. below the top of the section. This has placed additional light on the potentialities of the Wilcox and several prospects condemned by wells abandoned without penetrating the full section of the formation, are being reinstated as favorable areas.

BRUSHY CREEK.—Although details are not available, Shell Oil Co., Inc., is reported to have moved in a string of casing to the Brushy Creek area, Lavaca County, to be cemented in 1 D. G. McManus located in the C. P. Del Mas Survey, a few miles southwest of the Vienna field. The hole is said to be bottomed at a depth below 9,000 ft., but as the test has been drilled extremely tight, it is not known whether the well is to be tested or drilled deeper.

WALKER COUNTY.—In Walker County, Mike Hogg et al are moving in material for 1 Gibbs Brothers and Wayne estate located in the Charles W. Stewart Survey in the eastern part of the county. This is the first of two projected Wilcox tests that will be drilled on a block of approximately 20,000 acres which was assembled on the strength of extensive geophysical exploration.

CLODINE AREA.—In the Clodine area, Fort Bend County, Providence Oil Co. 1 Hatfield has been recompleted for a gas-distillate producer, and the flow is free of salt water. On a potential test through perforated casing opposite the Yegua sand, the well flowed 108 bbl. of 51-gravity distillate daily through a 9/64-in. choke. Tubing pressure was 2,600 lb., and casing pressure 2,750 lb. Additional activity was being started as the company moved the rig to the northeast for 1 T. W. Wing.

BRAZORIA COUNTY.—North of the Lockridge field, Brazoria County, H. E. Williams et al 1 Houston Land & Trust Co. is being retested after it flowed at the rate of 5 bbl. of fluid per hour through a 5/32-in. choke. Eighty per cent was salt water and the balance pipe-line oil. The test was made in the Frio sand at 6,330-37 ft. where a drill-stem test the previous week recovered several hundred feet of pipe-line oil.

LIBERTY COUNTY.—The district gained another wildcat operation as George Echols staked location for 1 E. B. Pickett, a proposed Yegua sand test located in the W. S. Scott Survey, Liberty County.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Lolita	5	838	30,023
West Ranch	4	281	22,017
Other fields	9	1,965	61,167
Dry holes: Fields	2	.....	14,862
Wildcats	1	.....	6,558
Total	21	.....	134,627

TEXAS GULF COAST COMPLETIONS

Wildcats

Jackson County: Erwin & Johnson 1 John Vesely, dry, T.D. 6,558 ft.

Fields

Anahuac, Chambers County: Humble 7 E. W. Boyt, 651 bbl., ¼-in. choke, T.D. 7,026 ft.
Big Creek, Fort Bend County: Gulf 78 Young, 66 bbl., ⅛-in. choke, perf. casing 1,623-33 ft., T.D. 2,009 ft.
Clodine, Fort Bend County: Providence 1 Hatfield, 108 bbl., 9/64-in. choke, perf. casing 7,499-7,502 ft., T.D. 8,090 ft.
Cordele, Jackson County: Magnolia 2 Drushel, old well drilled deeper, old T.D. 2,654 ft., new T.D. 2,703 ft., perf. casing 2,692-2,702 ft., 98 bbl., ⅛-in. choke.
Hastings, Brazoria County: Stanolind 4-A Moore, dry, T.D. 6,137 ft.
League City, Galveston County: Phillips 2 Lobit-Ross, dry, T.D. 8,725 ft.
Lolita, Jackson County: Cox & Hamon 1 Ten-Gate, 11 bbl., 8 hr., ½-in. choke, perf. casing 6,393-97 ft., T.D. 6,402 ft.
Humble 6-B L. Ranch, 432 bbl., ¼-in. choke, sand 5,933-37 ft.
Luling 1 Rose & Sample, 110 bbl., ⅛-in. choke, perf. casing 5,950-54 ft., T.D. 6,445 ft.
Magnolia 11 I. N. Mitchell, 240 bbl., 11/64-in. choke, perf. casing 5,286-89 ft., T.D. 5,292 ft.
Magnolia 21 Mitchell, 45 bbl., 10 hr., 9/64-in. choke, perf. casing 5,295-97 ft., T.D. 5,947 ft.
Old Ocean field: Fidelity Oil & Royalty 1 J. V. Brown, 190 bbl., 11/64-in. choke, perf. casing 10,134-58 ft., T.D. 11,010 ft.
Red Fish Reef, Chambers County: Humble 20-A-248 State, 178 bbl., ⅛-in. choke, perf. casing 9,348-58 ft., T.D. 10,683 ft.
Segno, Polk County: Humble 40-B Kirby Lumber Co., 124 bbl., ¼-in. choke, T.D. 8,195 ft.
Tomball, Harris County: Humble 6 Martens, 259 bbl., ¼-in. choke, top sand 5,538 ft., T.D. 5,560 ft.
West Columbia, Brazoria County: S. W. Richardson 3 Holmes Britton, 291 bbl., ¼-in. choke, perf. casing 5,815-22 ft., T.D. 5,891 ft.
West Ranch, Jackson County: Magnolia 119-A West Ranch, 240 bbl., ⅛-in. choke, perf. casing 5,737-41 ft., T.D. 5,742 ft.
Magnolia 155-A West Ranch, 52 bbl., ⅛-in. choke, perf. casing 5,540-46 ft., T.D. 5,575 ft.

(Continued on Page 74)

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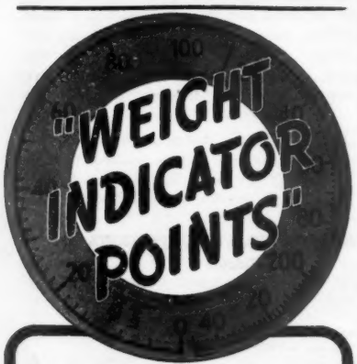

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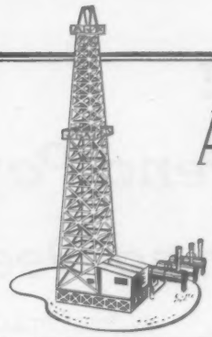

Among the Drilling

TRINITY Drillers, Inc., San Antonio, Tex., is moving in a rotary to the La Sal Vieja area of Willacy County, Texas, for an 8,000-ft. test to be drilled for Clark Cowden Corp.

FALCON-SEABOARD Drilling Co., Houston, Tex., received contract from W. R. Davis Co., Inc., for a deep wildcat to be drilled in Hidalgo County, Texas. The well is 1 Dawley, located in Lot 8, Block 13, Closner subdivision, Porcions 71 and 72.

NEWMAN BROTHERS Drilling Co. is moving a rotary to Duval County, Southwest Texas, for a Pettus sand test to be drilled about 4 miles north of the Chiltipin field for Jack Rayzor.

RICHMOND Drilling Co., Midland, Tex., at last reports was drilling in anhydrite below 3,415 ft. at its wildcat in Lea County, New Mexico. The test is its 1 Shell Oil Co.-State, about half way between the Vacuum and Maljamar fields in 22-17s-33e. Base of salt was logged at 2,590 ft., indicating favorable structural position.

TURNER Drilling Co., Mount Pleasant, Mich., logged Dundee lime at 3,938 ft. and was drilling below 3,988 ft. late last week at a wildcat in Sylvan Township of Osceola County, Michigan. The test is the Turner Petroleum Corp. 1 Pritchard in NW NE NE 7-18n-7w.

O. W. DYER, Houston, Tex., received contract for a 10,000-ft. wildcat from Atlantic Refining Co. The well is located on the Foster Lumber Co. lease in eastern Montgomery County, Texas Gulf Coast.

BUTLER & HORNE, drilling contractors of Dallas, Tex., has moved its offices from Albany, Tex., to the Mims Building in Abilene, Tex. Edgar Davis, superintendent formerly residing at Albany, is in charge of the Abilene offices.

SIEMONEIT Drilling Co., of Fort Worth, Tex., has been given contract by Stanolind Oil & Gas Co. for 1 Simmons, an eastern outpost to the Abell Simpson sand pool of northern Pecos County, West Texas. The test is in Lot 12, Section 26, Block 9, H.&G.N. Survey. The drillers will use rotary equipment.

RED IRON Drilling Co. of Marshall, Tex., was let contract by M. D. Bryant and associates of San Angelo, Tex., for the first of eight tests planned in the new Laneville Woodbine pool of Rusk County, East Texas. The first test will be 1 L. H. Evans, 416 ft. from the north and south and 467 ft. from the east and west lines of a 34-acre tract in the J. R. May Survey. Drilling will start on this south offset to the discovery well as soon as permit is received from the Railroad Commission.

HENSHAW BROTHERS, San Antonio, Tex., received contract from the Trio Oil Co. for 1 J. J. Ridout, an Edwards lime test, situated northeast of the town of Floresville in Wilson County, Texas. Location is in the John W. Brown Survey.

ROBERT W. ATHA, Mount Pleasant, Mich., is moving in rotary for a shallow well in the Kawkawlin area of Bay County, Michigan, to be drilled for Gulf Refining Co. The well is its 1 Fred Wendt and will be the first carried to the Berea or Dundee in recent months. Location is in NW SW SW 34-15n-4e. In the Hamilton pool of Clare County, Michigan, the contractor was rigging up standard tools after cementing surface pipe at the Sun Oil Co. 2 McKenna et al. In the Hersey area of Osceola County, Michigan, rotary has been moved in and spudding started on C. L. Maguire, Inc., 1 Watson.

GEORGE ECHOLS, Houston, Tex., completed a second producer in the deep sand recently opened on the east flank of the old Pine Prairie dome, Evangeline Parish, Louisiana. In Cameron Parish the contractor is preparing to spud 1 Louisiana Land Co., a joint wildcat being drilled with John Mayo. Location is in 16-15s-14w. Location for a wildcat has been made in Liberty County, Texas Gulf Coast, and a rotary is scheduled to be moved in at an early date.

OAKWOOD Drilling Co., Oklahoma City, Okla., has the contract for Harper & Turner 1 Kune, a new test to be drilled several miles south of the East Edmond pool, Oklahoma County, Oklahoma, and last week was rigging up after drilling a water well on location. The test is in NW SW NW 33-14-2w, started after Harper & Turner opened the East Edmond field at 1 Harper, NW NW SW 17-14-2w, a small producer in the Chicken Farm sand.

ALLEN & MORRIS, San Antonio, Tex., were completing Seaboard 9 Chapman which looms as the discovery well of a new field in Nueces County, Texas. Casing was cemented at 4,300 ft., and completion is being made in sand at 4,200 ft. where a recent drill-stem test recovered pipe-line oil. In the Duck Bay field, Calhoun County, Texas, Coronado Corp. 1 State-153 was abandoned at 5,860 ft., while in the Alta Mesa field, Standard Oil Co. of Texas 14 Mestina was being completed after setting casing at 2,541 ft. Four other active operations are reported in Anderson, San Patricio, Nueces and Jim Wells counties, Texas, for Tide Water Associated Oil Co., Pantex Oil Co., W. R. R. Oil Co., and the Transwestern Oil Co.

PORTABLE Drilling Co., Tulsa, was awarded the contract for a wildcat northeast of Ada, Okla., in Pontotoc County. The test is Richard Hughes and George F. Thomas and Elm Oil Co. 1 Johnson, SW SE 26-4-6. Cellar and pits have been dug and a rotary rig is being moved in. The test is to the Cromwell sand expected at around 1,600 ft.

CROSBY Drilling Co., Houston, Tex., recompleted Providence Oil Co. 1 Hatfield as a distillate producer to open a new field 2½ miles west of Clodine, Fort Bend County, Texas. The rig is being moved to the northeast for the same company's 1 Wing.

LUPHER Drilling Co., Mount Pleasant, Mich., is drilling two wells for Gulf Refining Co. and three for Pure Oil Co. in the new Reed City pool of Osceola County, Michigan. In the Winterfield pool of Clare County, Michigan, the contractor has three rigs drilling for Pure Oil Co. These wells are the 1-B Egts, drilling below 1,000 ft.; the 1-A Hugh Egts, drilling below 2,800 ft.; and the 3. Swindlehurst, drilling below 1,590 ft. after setting 6-in. casing.

FRANK BRAHANEY, drilling contractor of Odessa, Tex., is drilling below 3,000 ft. in salt and anhydrite at Texas Pacific Coal & Oil Co.-Seaboard Oil Corp. 1-C Midland County Farms in southeastern Andrews County, West Texas. The scheduled 5,000-ft. wildcat is 600 ft. out of the SE cor. Section 8, Block 41, Township 1n, G.&M.M.B.&A. Survey.

TRINITY Drilling Co., Dallas, Tex., has received contract for a scheduled 5,750-ft. wildcat 2 miles north of the Robstown townsite in Nueces County, Texas. The test will be drilled for the Forest Development Corp. on a geophysical prospect and is lo-

Contractors

cated 467 ft. out of the northeast corner of Lot 1, Block 5, Nueces River Park subdivision, Mariano Lopez de Herrera grant.

OLSON Drilling Co., Tulsa, has entered the southwestern Oklahoma play with a wildcat of its own 8 miles north and east of the new Apache pool in Caddo County. Olson 1 Ka-Way-Kla, SE NE NW 28-6-11w, was drilling below 3,400 ft. last week.

UNION Drilling Co., Mount Pleasant, Mich., is in various stages of operations at five wells being drilled for Sun Oil Co. in the Winterfield pool of Clare County, Michigan. In the Beaverton field of Gladwin County, Michigan, Union was testing the Sun Oil Co. 2 Harry Tope after topping the Dundee at 3,778 ft. with a total depth of 3,879 ft.

WALTON Drilling Co., San Antonio, Tex., is moving a rig to Maverick County, Texas, to deepen 3 Indio Cattle Co. for Humble Oil & Refining Co.; a wildcat located southeast of Eagle Pass. The well was dry at 3,000 ft., and hole will be deepened to 6,500 ft.

HERNDON Drilling Co., Tulsa, and J. Garfield Buell have derricks up for a pair of tests in Gallatin County, Illinois. The wells are the 1 Cox, SE NW SW 2-8s-9e, and 3 A.E.T.&T., NW SW SW 15-8s-10e. In White County, Illinois, Herndon and Buell were preparing to complete three wells. The 10 J. Bond, SE SE NW 8-4s-14w, has been shot with 100 qt. of nitroglycerin in the Aux Vases sand at 2,804-36 ft. A shot of 330 qt. was used on the 1 Cox, SW NW SE 5-4s-14w, in the Aux Vases sand at 2,868 ft. while 80 qt. were used on the 3 Garrison, SE NE NW 8-4s-14w, in the Aux Vases sand at 2,824-54 ft.

P. F. SULLIVAN, formerly drilling superintendent for Markham Drilling Co. of Mount Vernon, Ill., has resigned to start his own drilling firm, the P. F. Sullivan Drilling Co. with headquarters in Mount Vernon.

ARROW Drilling Co., Tulsa, was shut down for repairs at 2,209 ft. on its 1 Fuller, NW SW SE 31-8s-4e, Williamson County, Illinois. On its 1 Lamas, SW NW SW 14-4s-14w, White County, Illinois, the Benoist sand was topped at 2,765 ft. and drilling continued. Arrow Drilling Co. and Fisher 3 Ellis, NE SE SW 11-7s-8e, White County, topped the Waltersburg sand at 2,146 ft., was shot with 30 qt. at 2,157-65 ft. and pumped 125 bbl. oil and 25 bbl. water. Arrow Drilling Co. and Fisher 4 Ellis, NW SE SW 11-7s-8e, White County, had the Waltersburg sand at 2,146 ft. and was testing.

BIG WEST Drilling Co., Dallas, Tex., has completed the 1-A Houston in 23-11n-7w, Sharkey County, Mississippi, for the British American Oil Co. The well was completed in the chalk at 3,290 ft. and produced 160 bbl. of fluid with 50 per cent of it salt water.

MABEE Drilling Co., Tulsa, was testing on its 3 Smith, SE SW SW 4-4s-14w, White County, Illinois. The Benoist was topped at 2,670 ft. and the well drilled to a total depth of 2,689 ft.

CLINT CROSBY was drilling ahead on his 1 Murphy, E½ SW NE 15-3s-5e. Wayne County, Illinois.

W. B. JOHNSON Drilling Co., Longview, Tex., had a location for a new test in Mississippi, was drilling ahead on another and attempting to complete a third. The new location is the 2-C Robertson, 160 ft. from SW cor. SW NW 20-10n-2w; the drilling well is the 2 Stutts, NW 31-10n-2w, and it was below 4,041 ft.; the near completion is the 3 Stutts, NW SW NW 31-10n-2w, which was getting ready to run the gun perforator after reaching a total depth of 5,057 ft. All the wells are in Yazoo County, Mississippi.

AMERICAN Drilling Co., Saginaw, Mich., at last reports was fighting loss of mud circulation at L. & S. Drilling Co. 1 Cottrell in the Deerfield pool of Isabella County, Michigan. The thief zone was encountered at 560 ft., the same zone that delayed completion of the last test in the field for several weeks. Location of the 1 Cottrell is in SW SE SW 19-14n-5w.

LUCAS & THORNBERRY, Mount Pleasant, Mich., at last reports were driving surface pipe at Borough, Inc., and Fox 1 Edna Wilmont in the Bloomingdale field of Van Buren County, Michigan. Last week the contractors completed the operator's 1 Bell in the same field, which was dry at 1,286 ft. after topping the Traverse at 1,284 ft.

J. C. ARTHURS, INC., drilling contractor of Mount Pleasant, Mich., is drilling below 3,525 ft. at Freeman Oil Co.'s test in the Millbrook area of Mecosta County, Michigan. The well is the 1 Reynolds in C N½ NW SW 24-13n-7w.

LANG & LEWIS, Holland, Mich., is driving surface pipe on the N. R. Dodd 1 Helms et al in the Bloomingdale field of Van Buren County, Michigan. Location is SE SE NE 2-1s-14w.

Crew of Noble Drilling Co. at work on a Devonian test in the Louden pool for the Carter Oil Co. A. E. Brink, drilling engineer, Carter Oil Co.; "Red" McCarty, driller; George Wilhelm, derrick man; Bob Branham, motor man; Chris Lambert, back-up man, all of Noble Drilling Co.

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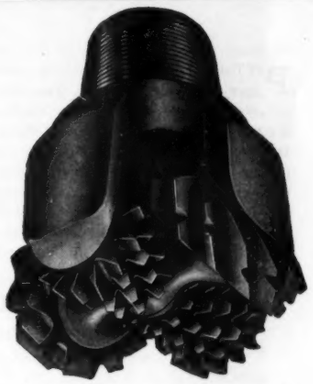

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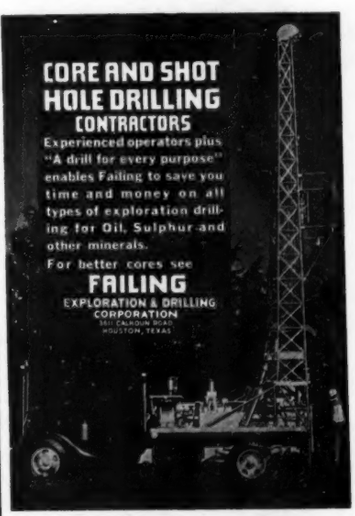
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HOUSTON, TEXAS

Jackson County, W. Va., Test Checks High on Lime Mark

By STAFF CORRESPONDENT

PITTSBURGH, Pa., June 30.—In Ravenswood district, Jackson County, West Virginia, Joe Rubin et al topped the Corniferous lime at 4,797 ft. in the wildcat on the Jackson County Bank lease (William H. Hunter), which with a surface elevation of 615 ft. places that member 4,169 ft. below sea level after correction to the derrick floor. This appears higher on structure than the large gas well on the J. E. Sweezy farm and much higher than the recently completed test on the H. O. Maddox farm, which is a gas well with about 5 bbl. a day of oil. The new test is located 4.7 miles south Lat. 39° 00′ and 3.55 miles west Long. 81° 35′ and it will be closely watched to completion.

During the past week 33 operations were completed, of which 2 were dry, 20 gas wells, 3 input wells for water flooding, and 8 oil producers with a daily initial of 50 bbl. New deep tests are under way in Ohio as well as in other districts.

SUMMARY OF COMPLETIONS

Southwest Pennsylvania

	No.	Bbl.	Footage
Gas wells	7	*2.4	17,915
Recompletions	1	*6.5	

West Virginia

	No.	Bbl.	Footage
Oil wells	4	37	7,657
Gas wells: Oriskany	1	*0.5	5,216
Other fields	7	*3.2	14,113
Total	12		26,986
Recompletions	1	*0.2	

*Million cu. ft.

SOUTHWEST PENNSYLVANIA

In Beaver County both of the wildcats are still in trouble after heavy caving of the shales. In Center Township, St. Joseph Lead Co. is cleaning out on fishing tools at 4,940 ft. on the J. P. Koehler heirs farm. In New Sewickley Township, L. D. McMichaels et al are cleaning out to reach the tools lost in the bottom of the hole, 5,434 ft., after which the shales broke loose on top of them. Most of the line has been whipped off. This test is on the Elmer Pflug farm.

On Laurel Ridge in Stewart Township, Fayette County, New Penn Development Co. et al are drilling at 8,249 ft. or 199 ft. below the top of the Onondaga chert in the test on the Gregg L. Neel farm. So far the Oriskany has not been identified. In Maryland, these operators have reached 5,430 ft. in the new hole in the wildcat on the Humberson farm on the Accident dome in Garrett County.

On Chestnut Ridge in Fayette County, Peoples Natural Gas Co. is drilling at 5,472 ft. in 4 Piedmont Coal Co. and 3,006 ft. in No. 5. Both are in South Union Township. New Penn Development Co. is spudding 1 Kirby and drilling 1 Carothers at 1,060 ft. Greensboro Gas Co. has spudded in and started drilling 1 Barton. In North Union Township, New Penn Development Co. William E. Snee et al are building a rig to deepen 1 Piedmont Coal Co. which was bottomed only 16 ft. in the Oriskany sand. Fox & Foley are the contractors.

In Armstrong County, T. W. Phillips Gas & Oil Co. et al has started building the rig for the deep test on the W. T. Beidenbach farm, West Franklin Township, on the west flank of the Kellersburg anticline. C. L. Sample is the contractor.

Armstrong County, Plum Creek Township: Peoples 1 Quinter Boyer, 219,000 cu. ft. gas, Murravsville, Hundred-foot and Thirty-foot sands, T.D. 3,078 ft.
Clarion County, Limestone Township: Owens Illinois 2 Clark Steel, 68,000 cu. ft. gas, Speechley sand, T.D. 2,490 ft.
Piney Township: M. J. Rhea Oil & Gas Co. 2 F. Munson, 14,000 cu. ft. gas, Hundred-foot sand, T.D. 1,420 ft.
Greene County, Jefferson Township: Equitable Gas Co. 1 R. M. Gwynn, 499,000 cu. ft. gas, gas sand 1,360 ft., gas 1,370-75 ft., T.D. 1,375 ft.
Manufacturers Light & Heat Co. 1 Ewings, 33,000 cu. ft. gas, Fourth sand 2,744-60 ft., gas 2,753 ft., T.D. 2,906 ft.
Washington County, South Franklin Township: Foley & Williams 1 Rankin Clark, drilled deeper, 6,480,000 cu. ft. gas, Big Injun sand 1,650 ft., gas 1,665-76 ft., T.D. 1,670 ft.
Westmoreland County, Bell Township: Dome Gas Co. 2 D. S. Carnahan, 1,600,000 cu. ft. gas, Speechley sand 2,984 ft., gas 2,990 ft.
Washington Township: Peoples 1 Asa Blose, 9,000 cu. ft. gas before shot, Bradford sand, T.D. 3,656 ft.

DRILLING

Armstrong County

Boggs Township: John Wray et al 2 James Wray, 500 ft., fishing.
Burrell Township: Equitable 2 George McIntire, 868 ft.
T. W. Phillips 3 S. Wagley, 2,960 ft.
Cowanshannock Township: Equitable 4 William Carroll, 3,326 ft.
William McCollins et al 1 A. L. McCullough, 3,669 ft.
Kiskiminitas Township: Duquesne 1 S. Trux, spudding.
Shaw & Townsend 1 Whitlinger heirs, 2,790 ft.
Kittanning Township: Equitable 1 Mrs. S. E. Briney, 3,523 ft.
T. W. Phillips 1 F. J. Kimple, spudding.
L. L. Livingood 1 P. F. Baker, 1,750 ft.
Pittsburgh Plate Glass Co. 2 Hardy Wright, 1,625 ft.
Monor Township: Local Co. 1 Claude Wray, 2,950 ft.
Local Co. 1 R. H. Iseman, 2,090 ft.
Parks Township: Apollo Gas Co. 1 Thomas I. Schaeffer, 760 ft.
Chestnut Ridge Gas Co. 1 Samuel Orr heirs, 1,035 ft.
Plum Creek Township: Peoples 1 Samuel Sheasley, 3,330 ft.
T. W. Phillips 2 J. P. Graham, 110 ft.
James Wright 1 fee, 3,375 ft.
Apollo Gas Co. 1 Louis Baker, spudding.
South Buffalo Township: Local Co. 1 Robert Wray, 330 ft.
South Bend Township: John Wray et al 1 Donald Ankemy, 920 ft.
Valley Township: Humphrey-Stone-McCall 1 W. H. Troutman, 1,588 ft.
Wayne Township: R. C. Galbraith et al 1 A. Rupp, 1,685 ft.

Clarion County

Limestone Township: George Hall 1 M. M. Fairman, 900 ft., testing.
Monroe Township: Owens Illinois Glass Co. 1 Scott Barnhart, 50 ft.
Frank Shreffler 1 Tate Henry heirs, location.
Porter Township: New Bethlehem Tile Co. 2 L. C. Bartlett, location.
Frank Knight 2 Stanley Bowersox, 2,150 ft.
Red Bank Township: T. W. Phillips 1 S. F. Hines, 2,585 ft.

Greene County

Center Township: Manufacturers Light & Heat Co. 1 John Lightner, rigged up.
Cumberland Township: Equitable 1 Charles S. Hathaway, 1,394 ft.
Franklin Township: Greene County Gas Co. 1 W. J. Lippincott, 2,700 ft.
Greene Township: Equitable 1 T. J. Strosnider, 2,160 ft.
Gilmore Township: M. D. Tustin et al 1 Tustin, 1,325 ft.
Jackson Township: H. E. Milliken et al 1 A. L. McCullough, S.D. 2,430 ft.
Peoples N. G. Co. 1 H. Ullom, Gordon stray sand 3,025-75 ft., 174,000 ft. gas 3,053-56 ft., Fourth sand 3,130-82 ft., gas 3,160 ft. gaged 125,000 cu ft., Bayard sand 3,411-12 ft., gas 3,412 ft., total gas now 255,000 cu. ft.
Manufacturers Light & Heat Co. 1 Charles Lemons, Big Injun sand 2,235 ft., 88,000 cu. ft. gas 2,241 and 2,268 ft., drilling 2,405 ft.
Monongahela Township: Judson Bell et al 3 E. R. Gabler, 1,775 ft.
Wahler-Powers Oil & Gas Co. 1 Chester Cumpston, building rig.
Morris Township: Romney Rutan et al 1 Jacob Mankev, rigging up.
Perry Township: Equitable 1 C. D. Wade, 3,355 ft.
Equitable 1 M. C. Keener heirs, 1,280 ft.
Whiteley Township: H. D. Freeland et al 1 Morris D Fox, 3,000 ft.

Fayette County

Menallen Township: Nollem O. & G. Co. 1 Henry Berkshire, 2,183 ft.
Boyd Oil & Gas Co. 1 Homer D. Smith, 1,400 ft.
Eberly et al 2 Haningoski, building rig.
Nicholson Township: Boyd Oil & Gas Co. 1 Morris, 1,220 ft.
Greensboro Gas Co. 1 Carl W. Biddle, location.
Greensboro Gas Co. 1 Andrew Dorunda, location.
Duquense Gas Co. 4 Pierce Keefover, 1,175 ft.
D. E. Mayne et al 1 Isaac Wood, building rig.
Springhill Township: Marker Stephenson 1 J. Brojkovich, S.D. 1,635 ft.

Jefferson County

Beaver Township: T. W. Phillips 1 Lily Smith, 1,210 ft.
T. W. Phillips 1 Hueletta E. Smith, 120 ft.
Clover Township: T. W. Phillips 1 John Huber estate, 3,100 ft.

Indiana County

Washington Township: T. W. Phillips 1 D. P. Brothtel, 1,295 ft.
Young Township: T. W. Phillips 1 Joseph Feher, 1,205 ft.

Washington County

Amwell Township: A. Shivers et al 2 Lucille D. Frazee, 50 ft.
Donegal Township: Manufacturers Light & Heat Co. 3352 A. B. Cozad, 1,874 ft.
Morris Township: Union Gasoline & Oil Corp. 1 M. D. Craft, 2,400 ft.
Somerset Township: Equitable 2 Jerry Myers, 2,511 ft.
Equitable 1 Albert Jones, 1,482 ft.
West Bethlehem Township: Equitable 1 William Watson, 2,835 ft.
Equitable 1 Amanda Barr, 223 ft.
North Franklin Township: Carnegie 1 Devore, 1,567 ft.

Westmoreland County

Allegheny Township: Apollo Gas Co. 2 S. D. Kepple, 330 ft.
Bell Township: Peoples 1 John McCullough, 3,043 ft., cleaning out.
Franklin Township: Peoples 1 Sarah C. Doyle, 2,000 ft., fishing.
Upper Burrell Township: Peoples 1 J. and M. Scott, 3,410 ft.

WEST VIRGINIA

In Monongalia County, the wildcat of the Hope Natural Gas Co. on the H. C. Greer et al lease in Morgan district, is drilling at 6,138 ft. In Freemans Creek district, Lewis County, this company is down 1,450 ft. in the rotary test on the Alfred Woofter farm.

Braxton County, Otter district: Pittsburgh & West Virginia 7801 O. J. Bourne, 600,000 cu. ft. gas and 2 bbl. oil, Injun sand, completed in slate, T.D. 2,245 ft.
Calhoun County, Sheridan district: B. J. Crowley 2 M. M. Daniels, 2 bbl., Injun sand, T.D. 2,006 ft.
Sherman district: Creed Yoak 1 John W. Church. 10 bbl., Injun sand, T.D. 1,998 ft., Big Injun 1,895-1,948 ft., oil 1,921-48 ft., shot 1,921-48 ft.
Creed Yoak 4 John W. Church, 15 bbl., Blue Monday 1,761-72 ft., Big lime 2,040-2,130 ft., Keener 2,130-50 ft., Injun 2,150-2,201 ft., oil show 1,761-72 ft., oil 2,181-2,201 ft., T.D. 2,201 ft.
Washington district: Hope 8546 E. C. Knotts, 250,000 cu. ft. gas, Maxton sand, T.D. 1,748 ft.
Gilmer County, Center district: Hope 8544 L. B. Meadows, 10 bbl., Maxton sand 1,502 ft., may deepen some.
Lincoln County, Jefferson district: Russell Gas Co. 1 Whitelaw Elkins, drilled deeper, start 2,305 ft., brown shale 3,375-90 ft., brown shale 3,420-3,680 ft., 169,000 cu. ft. gas, R.P. 265 lb., T.D. 3,697 ft.
Putnam County, Curry district: Vaughn Gas Co. 2 W. W. Vaughn, 920,000 cu. ft. gas, Salt sand 1,090-1,102 ft., gas 1,100-02 ft., T.D. 1,102 ft., R.P. 400 lb.
United Fuel 5012 W. A. Womack, 73,000 cu. ft. gas, Big lime 1,545-1,703 ft., Injun 1,730-1,810 ft., Berea 2,244-69 ft., brown shale 3,395-3,750 ft., small showing gas in Berea, gas in brown shale, shot in both, T.D. 3,771 ft.
Ritchie County, Murphy district: Clem S. Morris 2 L. W. Cunningham, 275,000 cu. ft. gas, Injun sand, T.D. 1,940 ft.
Young Gas Co. 2 W. J. and F. W. Burwell, 160,000 cu. ft. gas, Injun and Squaw sands, T.D. 2,007 ft.
Wayne County, Lincoln district: Mullins Gas Co. 1 fee, 920,000 cu. ft. gas, Salt sand 625-760 ft., Big lime 1,245-1,300 ft., R.P. 430 lb., T.D. 1,300 ft.

ORISKANY GAS FIELDS

Kanawha County, Poca district: United Fuel Gas Co. 5004 A. B. Jones, 520,000 cu. ft. gas, Corniferous lime 5,058 ft., Oriskany 5,198 ft., drilling 5,216 ft., not shot.
Columbian Carbon Co. 1 J. H. High, 158,000 cu. ft. gas, Corniferous lime 4,701 ft., Oriskany 4,805 ft., drilling at 4,886 ft., not shot.
Jackson County, Ripley district: United Fuel Gas Co. 5016 W. T. Harrison, 4,500,000 cu. ft. gas, before shot, Corniferous lime 4,866 ft., drilling at 4,983 ft.

DRILLING

Ripley district: West Virginia Gas Corp. 2 R. S. Coleman, drilling in Corniferous lime at 5,044 ft.

RAVENSWOOD DISTRICT NEW FIELD

Joe Rubin et al 1 G. H. Ott heirs, cementing 3,610 ft.
Joe Rubin et al 1 W. B. Smith, 3,175 ft.
Joe Rubin et al 1 J. T. Curry, cementing 3,636 ft.
Columbian Carbon Co. 1 J. H. Boggess, 2,296 ft.
United Carbon Co. 1 A. B. Stalnaker, 3,975 ft.
United Carbon Co. 1 M. L. Thrash, 4,345 ft.
United Fuel Gas Co. 5022 F. F. Starcher, 1,839 ft.
Spartan Gas Co. 1 J. L. Ayers, 596 ft.
Spartan Gas Co. 1 W. S. Burdette, 120 ft.
Boggess Drilling Co. 1 Claude Nuzum, 110 ft.
In addition 12 other operations are getting ready to start.

Indiana Fields

(Continued from Page 49)

were continuing to test in hopes of stepping up production.

Also disappointing last week was Davis & Martin 1 Harlem-Wolfe, Posey County wildcat southeast of the New Haven pool of White County, Illinois. No. 1 Harlem-Wolfe, SE SE SW 22-7s-15w, was reported dry in the Benoist sand topped at 2,638 ft. Also dry in the Cypress, the test is reported running unfavorably low as correlated with other tests in the area. Operators are drilling ahead, however, in hopes of encountering deeper production.

DAVIESS COUNTY.—A new gas pool was opened in

Daviess County last week when R. D. Brown et al completed 1 McCracken for 600,000 cu. ft. daily. No. 1 McCracken, S½ SW SE 16-2n-6w, wildcat 1½ miles north of Glendale, obtained production from the Cypress at 725-33 ft. Operators of this test have staked locations for a test to the south and one to the northwest.

INDIANA COMPLETIONS

Wildcats

Gibson County: Ward Wickwire et al 1 Tennes, SW SE SW 8-2s-12w, dry at 2,580 ft., Ste. Genevieve 2,500 ft.

Jasper County: A. C. Thomas et al 1 Davison, SW NE SW 25-30n-7w, dry at 1,101 ft., Trenton 953 ft.

Knox County: Lloyd E. Kennedy 1 Musselman, NE NW SW 34-1n-12w, dry at 2,402 ft., Hardinsburg 1,790 ft., Golconda 1,854 ft., Barlow 1,946 ft., Cypress 2,007 ft., Renault 2,186 ft., Ste. Genevieve 2,233 ft.

Posey County: Yost et al 1 Allyn, NW SE SW 14-7s-13w, dry at 2,780 ft., Ste. Genevieve 2,620 ft., St. Louis 2,772 ft.

Fields

Birdseye, Dubois County: J. C. Howes 1 Eckert, SW NE NW SW 14-3s-3w, dry at 547 ft., P.B. 526 ft.

Hudsonville, Pike County: Southwestern Dev. 1 Carpenter, E½ SW 19-1n-6w, 500,000 cu. ft. gas, gas 696-705 ft., T.D. 705 ft.

South Griffin, Gibson County: Continental 43 Bozeman, SE NW NW 26-3s-14w, pumped 60 bbl. in 15 hr., 40-qt. shot 2,495-2,505 ft., T.D. 2,875 ft., P.B. 2,610 ft.

INDIANA DRILLING REPORT

Daviess County: J. W. Cameron 1 Walker, N½ SE SE NE 5-2n-5w, slight show oil 426-50 ft., drilling 475 ft.

R. D. Brown 1 fee, S½ SW SE 16-2n-6w, T.D. 734 ft., tested 600,000 cu. ft. gas.

Gibson County: Illinois-Indiana Prod. 1 Stratman, NW NW 14-4s-10w, Golconda 1,664-98 ft., Barlow 1,782-85 ft., drilling 1,992 ft.

Nash Redwine 1 Cooper, SE NE NE 19-3s-14w, drilling 2,046 ft.

Yingling & Hays 1 Kieffer, S½ SW SE 26-1s-12w, Menard 1,528 ft., Vienna 1,630 ft., Glen Dean 1,778 ft., Hardinsburg 1,820 ft., Golconda 1,847 ft., drilling 2,060 ft.

Huntington County: Ray Ash 1 Bretsford, NE SE SE 17-26n-9e, location, first report.

Posey County: Cherry & Kidd et al 1 Gray, W½ SW SE SW 35-3s-14w, rig, first report.

Mahutska Oil 1 Elliott, SW NW NW 5-4s-13w, S.D 2,653 ft.

Whisenant & Trenchard 1 McFadden, SW NW SW 16-6s-14w, T.D. 2,811 ft., P.B. 2,506 ft., 40-qt. shot 2,476-2,506 ft., filled 200 ft. oil.

Rossi et al 1 Dickhaut, SE SW NW 19-6s-12w, Cypress 2,356 ft., T.D. 2,358 ft., running casing.

Central States 1 Breeze, SW SW SW 19-6s-12w, location, first report.

Martin et al 1 Wolfe & Harlem, SE SE SW 22-7s-15w, first report, Menard 1,997 ft., drilling 2,200 ft.

Spencer County: Jesse Wilson et al 1 McCoy, NE NE NE 12-7s-8w, S.D. 703 ft.

Louis Wade et al 1 Squire, SE SW SW 7-7s-6w, H.F.W. 1,651 ft., S.D. 1,665 ft.

Troy Refining 1 Grass, S½ SE NE SE 11-6s-4w, S.D. 927 ft.

Sullivan County: W. J. Reynolds 1 Hyde, SW NE NE 9-8n-10w, drilling 2,000 ft.

EASTERN KENTUCKY

ASHLAND, Ky., June 30.—Two gas-well completions mark the report of operations in eastern Kentucky this week. Two other wells have reached the "total-depth" level but completion data are not available.

Drilling operations remain on the same general level with one or two new locations reported.

Pike County: Kentucky-West Virginia Gas Co. 5289 Green Thacker, on Lower Pompey Branch, T.D. 3,643 ft., 539,000 cu. ft. gas, R.P. 603 lb.

Kentucky-West Virginia Gas Co. 5307 James Stratton, on Shop Branch, T.D. 2,875 ft., 24,000 cu. ft. of gas, R.P. 310 lb., from Big lime and 440,000 cu. ft., R.P. 375 lb., from shale.

DRILLING OPERATIONS

Pike County

Kentucky-West Virginia Gas Co. operations.
613 N. J. Boyd, 2,940 ft., white slate, T.D.
614 John B. Leslie, 3,061 ft., dry hole.
618 T. B. Blackburn, Johns Creek, 1,480 ft., Big lime.
621 R. B. Taylor, Brushy Fork, 1,560 ft., Big lime.
5302 James W. Bevins, Solane Branch, 2,240 ft., slate.
5303 J. W. Vicars, 3,038 ft., T.D., white slate.

Knott County

Inland Gas Corp. operations:
220 Hindman Settlement School tract, Smith Branch of Carr Creek, 2,255 ft., Big lime.

Kentucky-West Virginia Gas Co. operations:
616 Larke Slone, Jones Fork, 2,400 ft., Berea.
5304 Benjamin Smith, 2,890 ft., T.D., white slate.

WESTERN KENTUCKY

Daviess County

Handyville district: Petroleum Co. 4 L. N. Burns, 6 bbl. per hr., flow, 2,300 gal. acid, McClosky 1,683-94 ft., T.D. 1,706 ft.

Utica district: Master 1 W. D. Igleheart, south 43 acres, deepening to Cunningham sand from old T.D. 1,467 ft., through Bethel sand.

Henderson County

Niagara district: Schneider & Guinn 2 O. W. Overfield, 10 bbl., 10-qt. shot, upper Pennsylvanian sand 654-68 ft.

Ohio County

Narrows district: Evans 2 R. L. Shultz, dry, T.D. 620 ft.

EASTERN TEXAS FIELDS

Willow Springs Due For Much Development in Near Future

By R. MARNE SANFORD

DALLAS, Tex., June 30.—Two wells are being completed on the southwest side of the Willow Springs field of Gregg County to open the first oil production for this gas and distillate-producing area. A ¼-mile-northeast outpost to the field is indicating an extension of the gas pay. This development, coupled with recent plans for increased drilling by the field operators, as well as plans for a $300,000 recycling plant and a new pipe-line outlet, indicate that the area will be one of East Texas' most active spots during the coming months.

Roger Lacy 1 Horton-Dickson, Meredith Survey, southernmost of the two southwest outposts, reported a gage of 336 bbl. daily, 12 to 15 per cent salt water, flowing through 22/64-in. choke. Casing pressure registered 600 lb. while tubing pressure showed 450 lb. The water output breakdown showed 130,000 parts per million total output. Official gage is expected this week.

Just north of the Lacy well is Humble 2 Horton-Dickson, which is still shut in after flowing 44 bbl. of oil in 2 hours when opened more than a week ago.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil: East Texas field*	9	334	32,507
Hawkins	3	1,350	13,288
Other fields	2	556	9,575
Gas: Grapeland	1	†78.0	5,981
Dry: Wildcats	3	....	8,628
Total	18	....	69,979

*1-hour gages. †Million cu. ft.

Production of oil as well as gas from the other wells in the field is from the Pettit lime of lower Trinity series at 7,100-7,300 ft.

Adding further to the importance of the field are two projects now under way. A new $300,000 recycling plant is being constructed to strip the gas wells of their distillate output and return the residue gas to the deep Pettit lime. The plant is being built by Lone Star Gas Co. under a development program called for in a recent purchase contract of several hundred acres of proven leases from Roger Lacy. The company is also building the pipe-line outlet for the field.

Extension of the Willow Springs gas area 1,000 ft. to the northeast was assured when the Union Producing Co. 2 Hays, Marshall Mann Survey, was brought in as a gas producer, but ungaged. Operator perforated the 5½-in. casing with 160 shots from 7,317 to 7,357 ft., with total depth at 7,400 ft.

The most important location announced in Gregg County during the week was that by Roger Lacy of a Travis Peak wildcat. The test will be drilled 3 miles south of the Willow Springs area and on a structure thought to be separate from the gas field. The project is 1 M. T. Flannigan, located 9,450 ft. from the south and 1,555 ft. from the west lines of the H. Edwards Survey.

Laneville Area Preparing For Drilling Campaign

The announcement of 17 locations staked in the Laneville Woodbine sand pool, 6 miles southwest of Henderson in Rusk County, and the prospect of additional ones to be staked in the near future mark this area as one of the most active in East Texas at the present time. Much of the drilling will await the outcome of current operations which may define the new pool in one or more directions.

Considerable attention is being given the R. S. Kirby 1 Hall Wood, formerly Jeff Bolton, in the J. I. Sanchez Survey. Located approximately 4 miles south of the discovery well, the wildcat topped the Woodbine sand at 4,196 ft. and the operator reported a 96-ft. sand section broken by shale with one 5-ft. solid sand section containing saturation. If completed as a producer, this wildcat will open a wide territory for exploration. This test was drilled several years ago and in the light of the new discovery is being reworked for commercial production.

EASTERN TEXAS COMPLETIONS

Wildcats

Delta County: Partin & Skinner 1 W. L. Lomax, T. Jones Sur., 2½ mi. E of Cooper, dry at 1,920 ft.

Smith County: Iowa-Payne Oil 1 Spring Lake Club, John Lake Sur., 5 mi. N of Tyler, dry at 5,207 ft.

Upshur County: Frank Darden 1 Kay, Big Sandy townsite, top Wilcox 1,328 ft., dry at 1,501 ft.

East Texas Field

Longview area, Gregg County: Tide Water 34 Castleberry, 36 bbl., 3,563-68 ft.

Kilgore area, Gregg County: Houston Oil 6 Elder, 40 bbl., 3,543-95 ft.
Shell 26 Bates, 40 bbl., 3,569-3,627 ft.
Shell 12-A Elders, 40 bbl., 3,544-3,620 ft.
Shell 13-A Elders, 40 bbl., 3,541-3,600 ft.
Shell 32 Willoughby, 46 bbl., 3,536-3,600 ft.
John Wrather 27-A I.&G.N. R.R., 30 bbl., 3,555-75 ft.

Kilgore area, Rusk County: Houston Oil 13 Laird, 46 bbl., 3,590-3,650 ft.

Joiner area, Rusk County: Stanolind 6-A Schuyler, 16 bbl., 3,649-72 ft.

Other Field Completions

Long Lake, Anderson County: Stanolind 2 Carter, 124 bbl., 5,277-92 ft.

Talco, Franklin County: Humble 5 Young, 72 bbl., pumping in 3 hr., 4,278-83 ft.

Grapeland, Houston County: Greier Brothers and Jackson 1 Keen, 78,000,000 cu. ft. gas, perf. casing 5,968-81 ft.

Hawkins, Wood County: Humble 1 Cochrane, 102 bbl. in 6 hr., perf. casing 4,505-08 ft., 4,785-91 ft., and 4,721-26 ft., T.D. 4,824 ft.
Humble 1-B Green, 115 bbl. in 6 hr., perf. casing 4,520-30 ft., T.D. 4,664 ft.
R. H. Oil 1 Truss, 122 bbl. in 6 hr., perf. casing 4,666-4,700 ft., T.D. 4,800 ft.

EASTERN TEXAS WILDCAT REPORT

Anderson County: Huddleston & Prater 1 Praff, R. Allen Sur., 5 mi. NW of Palestine, S.D. 1,604 ft.
Cecil & Stein 1 Davey & Royal, 375 ft. from N and 402 ft. from W lines 160-acre tract in M. Rogers Sur., 5½-in. 470 ft.

Angelina County: S. D. McDaniel 1 Bonner, Sarah Odel Sur., T.D. 1,210 ft., P.B. to 1,020 ft., S.D.

Camp County: Lucey 1 McKenzie, L. Williams Sur., ¾ mi. W of Pittsburg field, drilling 7,365 ft., corrected.

Cherokee County: Bobby Manziel 1 Douglas, 467 ft. from W and 227 ft. from N lines of 79-acre tract in I. W. Brock Sur., 2½ mi. SW of Bullard, rigging up.

Fannin County: H. W. English 1 Parkhurst, M. P. Davis Sur., 7 mi. W of Leonard, S.D. 660 ft.

Freestone County: Westbrook & Whistler 1 Coleman, H. Howard Sur., 2½ mi. SW of Streetman, S.D. 28 ft.

Gregg County: Roger Lacy 1 Flannigan, 8,450 ft. from S and 1,555 ft. from W lines of H. Edwards Sur., 8 mi. S of Willow Springs field, rigging up.

Henderson County: British American Oil 1 Young, Joseph Rice Sur., 7½ mi. SW of Athens, top Woodbine 4,138 ft., Georgetown lime 4,905 ft., 9⅝-in. 4,938 ft., drilling 5,318 ft.

Houston County: Lone Star and Trinity Gas 1 Bolton, 467 ft. from S and 1,400 ft. from E lines of 162-acre tract in C. W. Wilson Sur., 2 mi. SE of Procilla, 9⅝-in. 697 ft., T.D. 712 ft.

Rusk County: Ross Sears 1 Pool, George May Sur., Laneville area, 4,128 ft., making 7 bbl. per day and 55,000 cu. ft. gas, S.I. 4,128 ft.
E. L. Baker 1 J. Evans, 2,402 ft. from W line and 453 ft. from N line James Evans 115.25-acre tract, W. H. Walters Sur., location.
G. C. Grasty 1 Kangargo Bros., 467 ft. from SE line and 1,170 ft. from NE line 100-acre tract, T. Wood Sur., 8 mi. W and N of Laneville, S.D. 210 ft.
R. S. Kirby 1 D. K. Richardson, 467 ft. from N and E lines, Blk. 5 J. I. Sanches Sur., 9 mi. W Laneville, moving in material and rigging up.
R. S. Kirby 2 Hall Wood, old well drilling deeper, 9 mi. W of Laneville, J. I. Sanchez Sur., T.D. 4,418 ft., show oil, S.D.

Smith County: R. L. Pruitt and C. M. Pope, Jr., 1 S. L. Cawthon, SE cor. 50-acre tract in Jacob Mast Sur., 3 mi. E of Bullard, T.D. 600 ft., preparing to quit.
O. L. Ross 1 Rushing, SW cor. of J. P. Rushing tract in Jacob Herrin Sur., 2 mi. SE of Whitehouse, 10-in. 200 ft., T.D. 2,100 ft.

Wood County: Fred Browning and J. C. Robbins 1 M. N. Andrews, SW cor. J. R. Smith Sur., 9 mi. N of Hawkins, location.
A. C. Bierman 1 P. F. Jones, 2,050 ft. out of W and 120 ft. out of N NE cor. of Joseph Simpson Sur., Alba townsite, 10¾-in. 200 ft., S.D. 700 ft.

Major Area on Bayou Sale Is Opened By 10,000-Ft. Strike

By F. L. SINGLETON

NEW ORLEANS, La., June 30.—The opening of prolific production on the Bayou Sale prospect, St. Mary Parish, a blowout of a wildcat in Orleans Parish, and the completion of a second producer on the east flank of the old Pine Prairie dome, Evangeline Parish, featured developments in the Louisiana Gulf Coast district the past week.

The discovery at Bayou Sale, St. Mary Parish, was made with the completion of Humble 1 E. F. Marin, which at the close of the week was flowing at the rate of 7 bbl. of 36.5-gravity oil per hour through a ⅛-in. choke. Tubing pressure was 1,710 lb. Drilled to a total depth of 12,487 ft., the hole was plugged back to 10,148 ft. and completion was made by perforating casing opposite oil sand at 10,100-10,110 ft. During an early gage, flowing through a ⅜-in. choke, the well flowed at the rate of 40 bbl. per hour, which makes the well rank as one of the best deep-sand producers in the district. The following sand record was recorded by an electrical log: Gas sand 10,022-10,065 ft., oil sand 10,065-10,138 ft., shale from 10,138-10,146 ft., and water sand at 10,146-10,153 ft.

The well is situated in 16-16s-9e on a block of several thousand acres which was leased on the strength of extensive geophysical work. It is located in the southern part of the parish about 3½ miles northwest of the Bateman Lake field, where Texas Co. has opened production from the Miocene sands at intervals from 8,600-11,000 ft. With the completion of this well interest in this area for the next few weeks will be centered on the progress of Harbor Oil Co. 1 State, about 1 mile northeast in 14-16s-9e, which is drilling in shale 8,900 ft. In view of the fact that only a limited amount of open acreage was available, trading in the area has been limited to royalty buying and premium prices are being paid.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Fields	16	3,490	122,769
Dry holes: Fields	8	.....	59,464
Wildcats	3	.....	25,517
Total	27	.....	207,750

Blowout Indicates First Production for Orleans Parish

The extensive wildcatting program which has been carried on in Orleans Parish by W. T. Burton has apparently met with success as the operator's 2 L.&N. R.R., located in the Lake Catherine area, about 25 miles east of New Orleans, blew out while drilling at an approximate depth of 9,985 ft., and the well ran wild for about 24 hours before it was brought under control. The well is said to have flowed an unestimated amount of gas and distillate, and it was necessary to reroute trains as a precaution against fire. Very little information has been released regarding the core record of the well and it is not known how much sand was cored before the well blew out. During the past several months, the operator has drilled approximately 5 wildcats in this parish, all of which have been located offshore or near the edges of Lake Pontchartrain consisting of several hundred thousand acres. These tests were drilled on the strength of extensive geophysical exploration which was completed during 1940. Should the present well be successfully completed it would open the first production for the parish in which only a limited amount of wildcatting has been done.

Second Producer Being Completed On East Flank of Pine Prairie

An increase in development around the east flank of the Pine Prairie dome, Evangeline Parish, is anticipated as Titanic 1 Wexler, approximately 1,200 ft. west of the discovery well, was showing for a producer while cleaning out. Total depth of the hole is 8,228 ft. and completion was made in sand at 8,086-8,131 ft. which showed 70 mv. porosity and 9 ohms resistivity on an electrical log. Being located nearer the dome, the sand was picked up higher than the discovery well which was completed in the Sparta sand at 8,226-33½ ft. Approximately the same distance south of the discovery well, Stanolind 1 Ocatave Ardoin, is drilling below 8,070 ft. and the outcome should be determined by the first of the week.

Another active test is Gulf 2-A Evangeline Land & Mineral Co., a north offset to the discovery which is drilling below 4,500 ft. The discovery of flank production on this old salt structure is believed to be of major importance and an active drilling campaign is anticipated in vew of the fact that acreage is held by several major and independent companies.

Two Good Wells Brought In at Ritchie Field

Development of the shallow Ritchie field, Acadia Parish, was being increased following the completion of two good producers. These wells, Grubbs & Hawkins 2 Ruppert and Vincent & Welch 2 Dr. F. N. Hayes, flowed 122 bbl. and 144 bbl., respectively, through small-size chokes from the regular sand at 3,498-3,510 ft., and are the best producers yet completed in the field which was opened the past year. During the early stages of development, only meager results were obtained and development has been spasmodic. The two producers are located on the south side of the field and a steady development in this direction is anticipated.

Tentative location for a wildcat test was announced for the Church Point prospect, Acadia Parish, by Danciger Oil & Refining Co. The well is to be drilled in 73-7s-2e on a block of several thousand acres which was assembled on the strength of geophysical exploration.

LOUISIANA GULF COAST COMPLETIONS

Wildcats

Beauregard Parish: Atlantic 1-D Rice Land & Lumber Co., dry, T.D. 10,002 ft.

Rapides Parish: Chamblee & Pitts 1 Lee Lumber Co., dry, T.D. 5,010 ft.

Vermilion Parish: Cities Service 1 Homeseekers Development Co., dry, T.D. 10,505 ft.

Fields

Anse La Butte, St. Martin Parish: Glassell & Glassell 1 Kranz, dry, T.D. 6,863 ft.

Stanolind 1 Bergeron, 226 bbl., 5/32-in. choke, perf. casing 4,735-70 ft., T.D. 5,670 ft.

Stanolind 1 J. J. Martin, 513 bbl., 5/32-in. choke, T.D. 6,488 ft., P.B., T.D. 6,392 ft.

Bay St. Elaine, Terrebonne Parish: Texas 4 L. L. & E. State, 162 bbl., 3/32-in. choke, sand 7,790-7,930 ft., T.D. 9,012 ft.

Chalkley, Cameron Parish: Humble 9 Cameron Parish School Board, 47 bbl., ⅛-in. choke, perf. casing 8,801-03 ft., T.D. 8,829 ft.

Cheneyville, Rapides Parish: Amerada 20 Weil, 15 bbl. ⅛-in. choke, T.D. 5,700 ft., P.B. T.D. 5,647 ft.

Darrow, Ascension Parish: Humble 1 J. S. Webb, dry, T.D. 7,702 ft., salt.

Eola, Avoyelles Parish: S. W. Richardson 1 Haas Land Co., dry, T.D. 8,848 ft.

Golden Meadow, La Fourche Parish: Bering 2 J. A. Gravois, 192 bbl. 10/64-in. choke, perf. casing 5,150-56 ft., T.D. 5,164 ft.

Jennings, Acadia Parish: G. I. Golden 2 Jennings-Haywood, dry, T.D. 2,412 ft.

Stanolind 120 Crowley Oil & Mineral Co., dry, T.D. 9,539 ft.

Lake Pelto, Terrebonne Parish, Texas 36 State, dry, T.D. 7,978 ft.

Port Allen, West Baton Rouge Parish: Amerada 2 Wilberts Sons & Lumber Co., 248 bbl., 5/32-in. choke, perf. casing 9,633-51 ft., T.D. 9,712 ft.

Port Barre, St. Landry Parish, Grubb & Hawkins, 160 bbl., ¼-in. choke, perf. casing 5,972-6,026 ft., T.D. 6,130 ft.

Quarantine Bay, Plaquemines Parish: Texas 10 State, 330 bbl., ⅛-in. choke, perf. casing 8,604-14 ft., T.D. 8,636 ft.

Ritchie, Acadia Parish, Grubb & Hawkins, 122 bbl., 9/64-in. choke, sand 3,498-3,502 ft.

(Continued on Page 74)

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Production Found By Tests In Three New Districts

By L. P. STOCKMAN

LOS ANGELES, Calif., June 30.—Wildcat wells in the Raisin City, Oak Canyon, and San Martinez districts showed up so good late last week that operators expect their immediate completion and at least one new oil field for the state. The probable new field is in the San Martinez district west of the San Martinez fault in the Newhall-Castaic region in the coastal area several miles west of the Del Valle field discovered last year by R. E. Havenstrite. (Geology, stratigraphy, and history of this area appeared in The Oil and Gas Journal, October 17, 1940, in a paper prepared by David Wosk titled Future Oil Possibilities of Newhall-Castaic District.)

The two other wells are expected to corroborate previous discoveries. They are Shell's second wildcat in the Raisin City district of Fresno County, and 2 Lechler of Western Gulf Oil Co. in the Oak Canyon field in the Newhall-Castaic region. Both looked good on formation tests and should be ready to be passed for production within another week.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: San Joaquin Valley	6	3,225	33,500
Coastal district	1	1,560	2,565
Los Angeles Basin	8	3,159	37,265
Gas wells: Rio Vista	1	.....	4,300
Dry holes: San Joaquin Valley	1	.....	1,975
Coastal district	2	.....	8,507
Los Angeles Basin	1	.....	7,627
Total	20		95,739
Recomp.: San Joaquin Valley	2	1,525	.....
Los Angeles Basin	1	190	.....

Shell Oil Co. confirmed its discovery in the Raisin City district of Fresno County when a formation test at 5,021-50 ft. on 1-19 Santa Ana and Fresno Land, in 19-15s-18e, resulted in a flow at the rate of 100 bbl. per hour. This formation test was limited in duration and the tester was only open for 11 minutes as the company only desired to find out if the tested interval would result in a natural flow. This well, which has since been cemented for a water shutoff, was tested in the same interval in which the discovery well was finished a few weeks ago but in this case the gas zone or gas cap at the top of the oil sand was blanked off.

The discovery well flowed 15,000,000 cu. ft. of gas and only 24 bbl. of condensate whereas the second well showed a substantial amount of crude oil and a low gas-oil ratio. It is interesting to note that 1-19 Santa Ana and Fresno Land is apparently 10 ft. lower structurally than the discovery well which tends to indicate that the apex of the structure is to the north as this second well is located due south of the discovery. The finding of an oil sand in the Raisin City district is of paramount importance from a prospecting standpoint because it disproves an axiom of long standing to the effect that no commercial production could be anticipated east of the Santa Ana River in Orange County or north of Coalinga in Fresno County. Raisin City is about 25 miles north of the Coalinga field.

Deep Test on Buena Vista Hills Anticline Has 14,000-Ft. Fishing Job

Honolulu Oil Corp. has reached a critical point in its deep test on the Buena Vista Hills anticline in the Midway-Sunset field of Kern County because this well has encountered mechanical trouble at 14,622 ft. It is possible the company may effect a satisfactory recovery and proceed with drilling but at this depth a fishing job is a serious matter. This deep test, located in 10-32s-24e, has been the surprise of the year because it is located on one of the most favorable anticlines in the San Joaquin Valley and had every indication of yielding production from either the Stevens, Rio Bravo, or Vedder zones in the Miocene. It is thought quite possible that the equivalent of the Stevens has been drilled through but it remains to be seen whether the bit has reached the Rio Bravo and Vedder zones. If this deep test had shown large production it would have found California's greatest reserve and might have led to deep drilling in other sections of the Midway-Sunset field which is by far the largest producing area in the state. Its present status will deter deep drilling in the Midway-Sunset field for several years especially since operators now know that deep drilling may be necessary.

Operation of Paloma Unit Plan Delayed for Some Time

It had been expected to have the Paloma unit plan in operation by July 1 but recent developments indicate that it may be some time later before the initial organization meeting will be held. Everything is ready to go but last-minute changes have caused a delay. This distillate field is by far the largest accumulation of its kind and will make other distillate accumulations appear insignificant by comparison. A total of about 2,000 acres has already been proved up as productive and it is believed that a minimum of 5,898 acres will eventually prove productive. Estimates indicate a possible recovery of about 100,000,000 bbl. of condensate or distillate which is the equivalent of about 3 bbl. of California crude oil but it is quite possible that this estimated recovery may be greatly increased.

One thing is very obvious and that is operators must unify operations in the Paloma field if they desire to operate without interference from state and federal officials. The day when it was possible to blow unused gas to the air is over and will not return as the industry now appreciates the inherent waste of blowing gas to the air and would petition the state Department of Natural Resources to take action if it failed to do so on its own volition. The most important factor is the necessity of recycling gas production in order to maintain bottom-hole pressure and increase recovery of distillate.

SAN JOAQUIN VALLEY COMPLETIONS

Coalinga Northeast, Fresno County: Bandini Pet. Co. 55-30-B, 30-19s-16e, flowed 216 bbl., 27.9-gravity, 0.5 per cent cut, 1,000,000 cu. ft. gas, 11/64-in. bean, pressures 650/1,000 lb., T.D. 8,220 ft., 100-mesh perf. 8,195-8,220 ft. [illegible] zone of Eocene age 8,203-20 ft., Kreyenhagen 6,868 ft., green sand 8,047 ft.

Coalinga Southeast, Fresno County: Superior Oil Co. 1 fee, 7-20s-16e, flowed 1,320 bbl., 30.3-gravity, 0.5 per cent cut, 750,000 cu. ft. gas, 32/64-in. bean, pressures 950/1,280 lb., T.D. 7,302 ft., 225-mesh perf. 7,197-7,295 ft., 120-mesh perf. 6,822-7,197 ft., recompleted in Gatchell oil sand 6,846-7,296 ft. after hole deepened from 7,161 ft.

Fruitvale, Kern County: Western Gulf 1 Ansloabehere, 14-29s-27e, flowed 205 bbl., 21.3-gravity, 3 per cent cut, 128/64-in. bean, T.D. 3,392 ft., P.B. 3,082 ft., perf. 3,050-82 ft., recompleted after hole deepened from 2,916 ft. to 3,392 ft. and then P.B. to 3,082 ft.

Midway-Sunset, Kern County: Quality Oil Co. 6 W.P., 27-32s-23e, abandoned as dry hole at 1,975 ft., did not show any oil or gas at any time.

Mount Poso, Kern County: General Pet. 4 Heisen, 16-27s-28e, pumped 365 bbl., 15.6-gravity, 2 per cent cut, T.D. 1,916 ft., perf. 1,864-1,916 ft., completed in Vedder zone of Miocene age 1,739-1,916 ft.

Shell 34 Vedder, 9-27s-28e, pumped 296 bbl., 15.4-gravity, 25 per cent cut, T.D. 1,854 ft., perf. 1,825-40 ft., completed in Vedder zone of Miocene age.

Shell 35 Vedder, 9-27s-28e, pumped 273 bbl., 15.1-gravity, 55 per cent cut, T.D. 1,840 ft., perf. 1,810-38 ft., completed in Vedder zone of Miocene age 1,739-1,840 ft.

Rio Bravo, Kern County: Superior 3-2 Osborne, 28-28s-25e, flowed 1,560 bbl., 39.1-gravity, 0.2 per cent cut, 1,750,000 cu. ft. gas, 32/64-in. bean, pressures 1,450/1,700 lb., T.D. 11,450 ft., 120-mesh perf. 11,-233-11,450 ft., completed in Rio Bravo zone 11,230 ft. and Vedder zone 11,314-11,450 ft., of Miocene age.

Rio Vista, Sacramento County: Amerada Pet. Corp. 1 Ranpone, 29-4n-3e, flowed 10,000,000 cu. ft. gas, 48/64-in. bean, pressures 1,690/1,700 lb., T.D. 4,300 ft., perf. 4,260-80 ft., completed in Cretaceous gas sand 3,990-4,300 ft.

Ten Section, Kern County: Shell 7-29-A Kern County Land, 29-30s-26e, flowed 515 bbl., 35.7-gravity, 1.2 per cent cut, 554,000 cu. ft. gas, 16/64-in. bean, pressures 1,150/2,300 lb., T.D. 8,220 ft., perf. 7,985-8,216 ft., completed in Stevens oil sand 7,768-8,220 ft., Stevens zone is Miocene age.

SAN JOAQUIN VALLEY WILDCATS

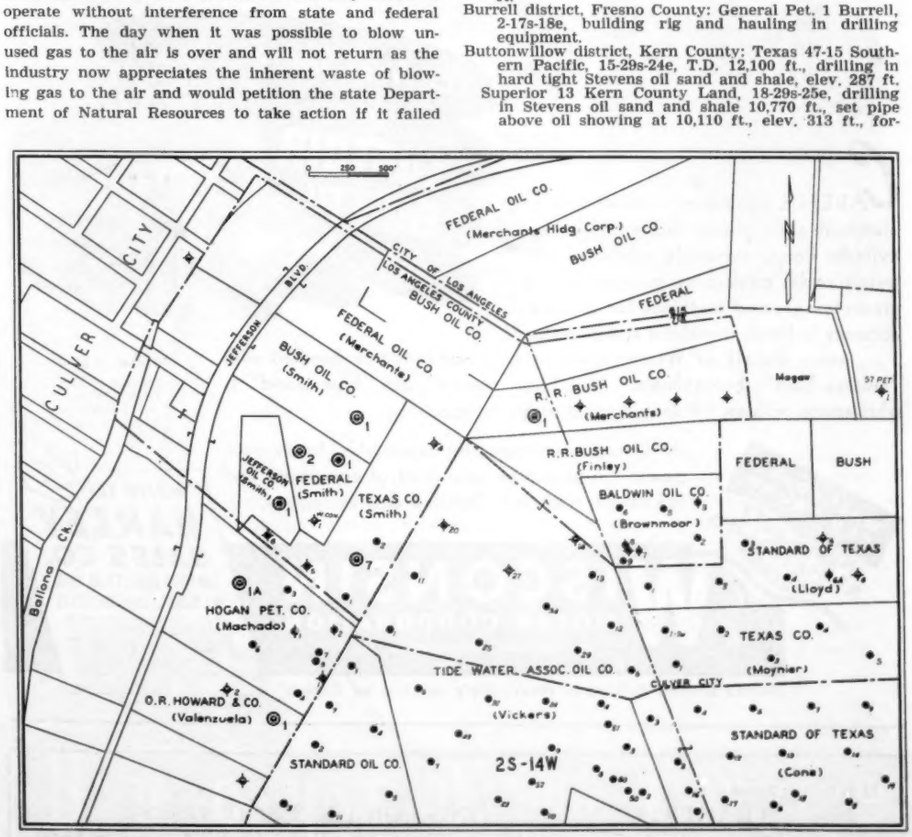
Buena Vista Hills district, Kern County: Honolulu 25-P fee, 10-32s-24e, drilling 14,622 ft. in Miocene hard fine gray silty sand, objective is Rio Bravo and Vedder zones, elev. 916 ft.

Texas 9 Thornber, 34-31s-24e, drilling 4,657 ft. in sand and shale, making production test, elev. 404 ft.

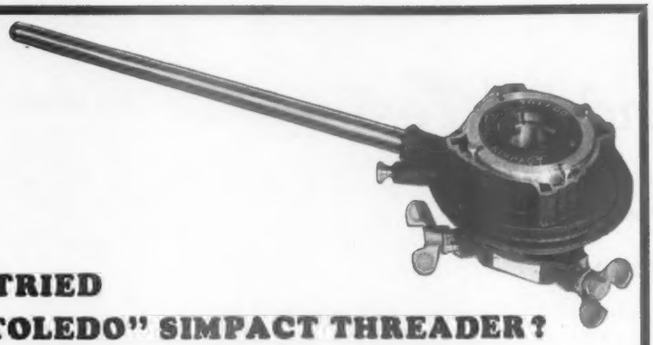
Burrell district, Fresno County: General Pet. 1 Burrell, 2-17s-18e, building rig and hauling in drilling equipment.

Buttonwillow district, Kern County: Texas 47-15 Southern Pacific, 15-29s-24e, T.D. 12,100 ft., drilling in hard tight Stevens oil sand and shale, elev. 287 ft.

Superior 13 Kern County Land, 18-29s-25e, drilling in Stevens oil sand and shale 10,770 ft., set pipe above oil showing at 10,110 ft., elev. 313 ft., for-



Miocene development in the northwest end of the Inglewood field in Los Angeles Basin, California, is nearing the point where the scope of drilling will broaden out to include large adjacent acreage. Limits of production in the northwest area are still undefined



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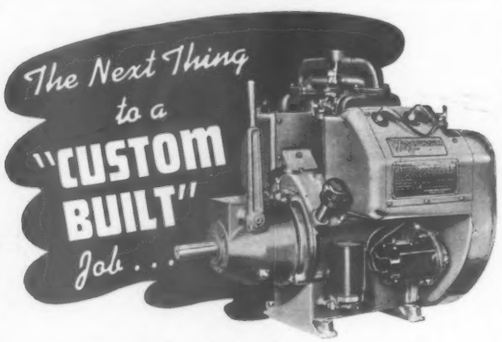

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mation tests: 10,007-10,110 ft. showed water, 10,007-10,156 ft. showed salt water.
Bellevue district, Kern County: Ohio 1-G Kern County Land, 36-29s-26e, drilling 8,686 ft. in sand and shale.
Union 31-3 Kern County Land, 3-30s-26e, drilling 12,100 ft. in sand and shale, Stevens oil zone absent.
Dyer Creek district, Kern County: Shell 46-11 Smith, 11-26s-27e, drilling 1,793 ft. in sand and shale.
Famosa district, Kern County: C.C.M.O. 12-1 Famosa, 12-27s-26e, drilling 6,440 ft. in coarse gray Eocene sand, Olcese zone 3,838 ft., gray Vedder sand 5,011 ft., being drilled by Bell and Loffland.
Lafayette district, Contra Costa County: Lafayette Oil Co. 1 Morris, 28-1n-2w, drilling at 1,161 ft. in sandy shale.
Lost Hills district, Kern County: Associated 46-16 fee, 16-27s-21e, drilling in sandy shale 4,298 ft., elev. 424 ft.
Maricopa district, Kern County: Bankline 24-24 Sunset, 24-11n-23e, temporarily suspended in gray siltstone at 4,345 ft., top Etchegoin 2,960 ft., elev. 970 ft.
Bankline 57-23 Sunset, 23-11n-23e, making production test 1,104 ft., elev. 1,000 ft.
Monocline Ridge district, Fresno County: Seaboard Oil Co. 1 Hagood, 6-17s-13e, rigging up and preparing to spud.
Pyramid Hills district, Kings County: Pyramid Prod. Co. 2 Spreckles, 16-24s-18e, drilling in surface sand 175 ft., elev. 673 ft.
Raisin City district, Fresno County: Shell 1-19 Santa Ana and Fresno Land, drilling in sand and shale 5,051 ft., formation test 4,673-93 ft. recovered 185 ft. 16-gravity oil, no gas, formation test 5,021-50 ft. open 11 min. flowed rate of 100 bbl. hourly.
Rio Vista district, Solano County: Amerada Pet. Corp. 1 California Lands, 3-3n-3e, drilling 4,283 ft., P.B. 3,920 ft., gas sand appears wet, Standard and Texas making production test, elev. 1 ft.
Jergins Oil Co. 1 Twitchell, 8-3n-3e, location staked 330 ft. S, 1,200 ft. E from NW cor. section.
Superior 1 Larson, 8-3n-3e, location staked 330 ft. S, 1,023 ft. E from NW cor. section.
Superior 1 McCormack, 9-3n-3e, location staked 3,680 ft. N, 330 ft. E from SW cor. section.
Sacramento district, Sacramento County: Portable Drlg. & Equipment Co. 1 Sacramento, 35-8n-4e, T.D. 297 ft. in surface sand.
Sharkey Landing district, Glenn County: Holly Sugar Co. 1 fee, 32-22n-1w, drilling 2,567 ft. in sand and shale, elev. 32 ft.
Shafter district, Kern County: Continental 2-G Kern County Land, 35-27s-24e, T.D. 11,349 ft., P.B. 1,050 ft., redrilling 6,864 ft.
Tejon district, Kern County: Richfield 2-A Tejon, 19-11n-18e, drilling and coring in sand 3,473 ft.

SAN JOAQUIN VALLEY OUTPOSTS

Belridge, Kern County: Sentinel Oil Co. 1 Belridge, 10 28s-20e, drilling 2,898 ft. in sand and blue shale, elev. 731 ft.
Elk Hills, Kern County: Standard 42-31-S fee, 31-30s-24e, T.D. 8,021 ft. in shale, fishing drill pipe, elev. 1,122 ft.
Standard 45-19-S fee, 19-30s-24e, drilling 8,617 ft. in oil sand, elev. 707 ft.
Standard 7-33-S fee, 33-30s-24e, drilling in sand and shale 1,228 ft., elev. 59 ft.
Kettleman North Dome, Kings County: Standard 1-1-U fee, 1-23s-16e, drilling 12,342 ft. in hard gray sand, elev. 693 ft.
Midway Sunset, Kern County: North Amer. Oil Consd. 1-28 W.P., 28-32s-23e, T.D. 7,824 ft. in very hard shale with streaks of tight impervious sand, checking log, elev. 1,560 ft.

Second Well Nearing Completion In Oak Canyon Field

Western Gulf Oil Co. has apparently confirmed its discovery in the Oak Canyon field of Los Angeles County as its 2 Lechler in 31-5n-17w on a formation test late this week flowed for several hours at the rate of 720 bbl. daily. Several hours after the tester had been open the well was still flowing 30 bbl. per hour of 32-gravity oil. This is the second zone found productive in the Oak Canyon field as the discovery well found a productive zone in upper Modelo formation of Miocene age at 2,296-2,415 ft. The initial well in the Oak Canyon field produces an oil testing 16-gravity as compared with the much higher gravity oil produced from the lower or second zone.

It is interesting to note that Western Gulf Oil Co. was at one time very much disappointed with the status of 2 Lechler, the deep-zone discovery, and had actually decided to abandon work. It was decided, however, to make a little additional hole before pulling out and it was during this period that the top of the pay was found. Everyone agreed with Western Gulf as to the advisability of stopping work because at 6,000 ft. the company had reached the equivalent of about 11,000 ft. at Del Valle and Rancho San Francisco and the outlook did not look very promising.

Gulf's 2 Lechler is bottomed at 7,187 ft. but is plugged back to 6,975 ft. and has 7-in. casing cemented at 6,889 ft. The flow of 30 bbl. per hour was made from an interval 5 ft. below the shoe of the water string and indicates that with additional formation open the well should show a much larger flow.

San Martinez Wildcat Opens New Field

Fred Jasper's wildcat on the Videgain property in 17-4n-17w, west of the Del Valle field of Los Angeles County, is at present the hottest wildcat under way in southern California and every indication points to com-

pletion of a good well. There has been some question as to whether the well had enough kick to result in a natural flow but a short formation test late this week removed any doubt because the well began flowing within 10 minutes after the formation test was started. The well was testing showings logged at 5,883-5,984 ft. and was shut in after it showed it was capable of flowing clean oil.

This wildcat was known to have logged some very good looking showings but lack of gas during drilling operations had indicated a possibility that the well would not flow. Jasper's 1 Videgain is bottomed at 5,984 ft. and has a string of 7-in. casing set as a water string at 5,883 ft. It is the present intention to drill ahead for a short distance before completing as the operator would like to open up a little more oil sand. The bit was still in the pay when drilling operations were concluded previous to the formation test and for this reason it is logical to assume that some additional oil sand might be expected.

Completion of this well as a commercial producer will probably lead to the drilling of several additional wells in the immediate future as acreage around this lease has been tied up for more than a year. New wells will probably be started by Ohio Oil Co. which holds a 160-acre lease adjoining the Videgain property as well as Standard and Bankline Oil Co.

COASTAL DISTRICT COMPLETIONS

Del Valle district, Los Angeles County: R. E. Havenstrite 3 Lincoln, 16-4n-17w, abandoned as unproductive, T.D. 7,906 ft., 7-in. casing cemented 7,265 ft., first, second, and third Modelo zones of Miocene age showed salt water, formation in bottom of hole gray water sand.

Santa Maria Valley, Santa Barbara County: Union 3 Adam, 24-10n-34w, flowed 1,560 bbl., 15.7-gravity, 0.2 per cent cut, 48/64-in. bean, pressures 250/350 lb., T.D. 2,565 ft., perf. 2,090-2,560 ft. in Franciscan basement 2,545-65 ft.

Sespe district, Ventura County: Maynard and Vaughn 1 Sespe, 18-4n-19w, abandoned as dry hole at 601 ft., did not show any oil or gas at any time.

COASTAL DISTRICT WILDCATS

Aliso Canyon, Los Angeles County: Associated 1 Mission, 26-3n-16w, building rig and hauling in equipment.

Castaic district, Los Angeles County: Barnsdall 1-17-A Honor Rancho, 5-4n-16w, T.D. 4,717 ft. in tight oil sand, temporarily suspended, excellent gas showings but little oil below 2,250 ft., drilling second test, elev. 1,317 ft.

Barnsdall 1-19-A Honor Rancho, 7-4s-16w, drilling 5,850 ft. in gray sand and shale, elev. 1,244 ft.

R. W. Young 1 Walker, 11-4n-16w, drilling in sand 986 ft., elev. 1,200 ft.

Del Valle district, Los Angeles County: Fred Jasper 1 Videgain, 17-4n-17w, T.D. 5,984 ft. in oil sand and shale, 7-in. casing cemented 5,883 ft., correlating higher than adjacent wells, looks very good, top Miocene 5,600 ft.

R. E. Havenstrite 4 Lincoln, 16-4n-17w, drilling 3,684 ft. in sand and shale, elev. 1,285 ft.

Elwood district, Santa Barbara County: Barnsdall-Richfield 88-11 State, tideland, drilling 3,082 ft., will be Sespe test, elev. 21 ft.

Loma Grande district, Monterey County: Loma Grande Oil Co. 1 Corey, 23-24s-10e, T.D. 3,790 ft. in shale, fishing drill pipe, elev. 1,500 ft.

Los Flores district, Santa Barbara County: Standard 2 Los Flores, 27-9n-33w, drilling in sand and shale 5,597 ft., elev. 1,084 ft.

Newhall district, Los Angeles County: Aztec Oil Co. 1 Sanborn, 6-3n-16w, T.D. 4,300 ft. in sandy shale, moving in heavier equipment, elev. 1,516 ft.

St. Anthony Oil Co. 1 La Salle, 10-3n-16w, drilling in sand 2,284 ft., elev. 1,480 ft.

Tunnel Oil Co. 1 Needham, 13-3n-16w, graded road and location, expect production around 1,550 ft., elev. 1,681 ft.

Texas 1 Whitnah, 14-3n-16w, T.D. 4,999 ft., P.B 3,664 ft., testing interval 3,275-3,648 ft., elev. 1,934 ft., located on major Pico anticline.

Oak Canyon district, Los Angeles County: Western Gulf 2 Lechler, 31-5n-17w, T.D. 7,187 ft., P.B. 6,975 ft. in hard Modelo oil sand and shale, 7-in. pipe cemented 6,889 ft., running lower structurally than discovery well, shows some gas, elev. 1,489 ft.

Rincon, Veutura County: C.C.M.O. 9-C Hobson, 17-3n-24w, drilling sandy shale with streaks of oil sand 9,338 ft., this is deepest well drilled in field to date, has had two zones that might be productive, water shutoff satisfactory but formation looks wet at 8,265-9,335 ft., lost swab, found tubing stuck, flows occasionally during fishing operations, elev. 40 ft.

Deep-Zone Producers Will Observe Top-Well Allotment

The most important development in southern California this week was the agreement of operators developing deep-zone production in the Miocene to conform with the top-well production allotment prevailing in California. As the present top allotment is 142 bbl. daily for maximum wells, the agreement means that operators holding wells producing from the Miocene will immediately reduce production to the maximum and that as new wells are completed in the future they will be similarily curtailed.

In the past considerable difficulty has been experienced by the proration committee in obtaining strict adherence to production schedule in newly discovered fields and pools. Action of the Inglewood operators in foregoing a period of flush production from a newly discovered zone is cited as an example of the desire of producers to comply fully with arrangements being set up for administration of the industry under direction of Harold L. Ickes as coordinator for the oil industry.

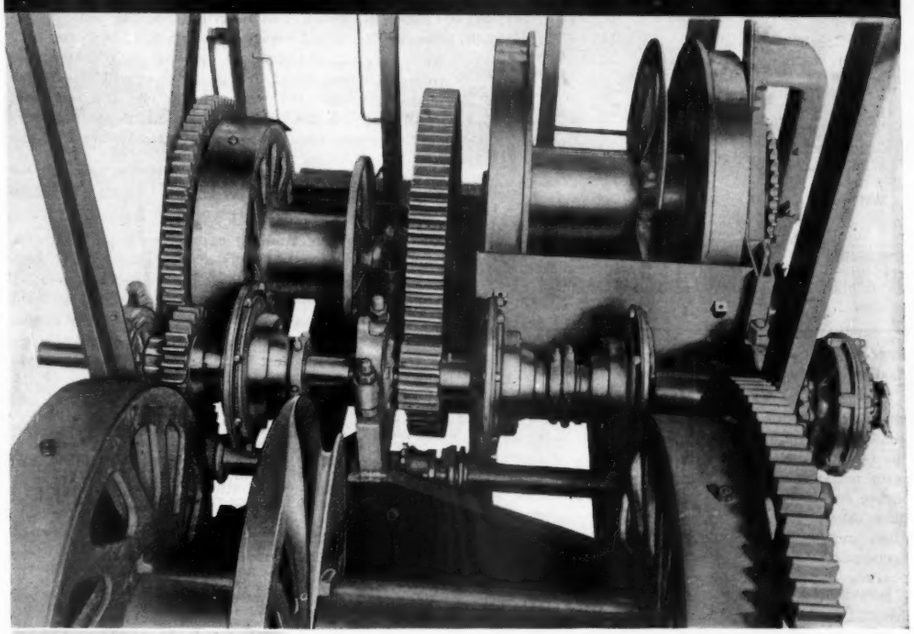
In announcing decision of Inglewood producers to reduce output of their wells to the 142-bbl. top figure, L. P. St. Clair, administrator for the Conservation Committee of California Oil Producers, stated that this action was completely in accord with the purposes expressed in the meeting with the coordination officials in Washington, D. C., last week. He called attention to the fact that, "This voluntary action by the producers in the Inglewood field forms an example which must be carried into other fields in the state currently overproducing if the conservation program in the interest of national defense is to be a success."

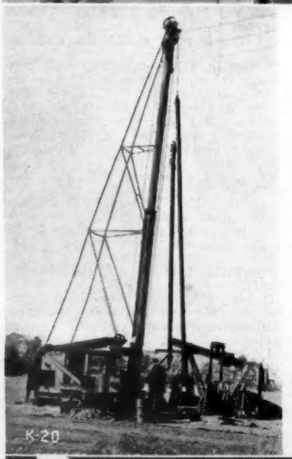
Cutting back of production to 142 bbl. daily will represent a reduction of more than 75 per cent from the 600-bbl. daily flow that has obtained in the new zone since completion of the discovery well. There are now four Miocene zone wells producing from the lower zone in the northwestern end of the field, two of which have recently been finished. Of the latest completions, one showed an initial of 1,920 bbl. daily and the other was brought in flowing 1,150 bbl. daily. Operators in the field in order to keep in touch with conditions have requested the administrator to make a daily check of production of each well in the field producing from the Miocene zone.

Companies and individuals participating in the agreement or in the principles enunciated—companies with wells on production, wells drilling or with holdings in the area—include Federal Oil Co., Jefferson Oil Co., R. R. Bush Oil Co., Hogan Petroleum Co., Texas Co., Standard Oil Co. of California, Tide Water Associated Oil Co., and R. C. Smith. W. L. Frankley, president of Federal Oil Co., led the move among independent operators in the area to reduce output. In pledging his company's full support of the conservation program he

(Continued on Page 71)

TWO speeds forward and INSTANTANEOUS REVERSE





Two speeds forward and **instantaneous** reverse is one of the sweetest tricks Bucyrus-Erie has built into their new 36-L spudder. Plus the big equalized twin brakes on bull and sand reels, it means speed and control on the lines that saves a lot of time on any type of drilling or servicing. For instance, you can pull 4,200 pounds of tools from 3,000 feet in 8 minutes in high, or throw into low and get a pull of 14 to 15 tons to haul out of trouble. With the sand reel in high, you can take a 7x30" bailer 3,000 feet in 3 minutes. And the calf reel gives you to 47 tons of pull with 6-part tackle.

Here's a machine that is writing spudder history. Get in on it. Let it write its story of modern speed and profit on your books.

Bucyrus-Erie

SOUTH MILWAUKEE, WISCONSIN

Three Centralia Area Wildcats Show Oil; Operations Up

By STAFF CORRESPONDENT

MATTOON, Ill., June 30.—Oil shows were reported at three wildcats in the Centralia area last week as Illinois oil operations reached a new peak for 1941. Of a total of 421 operations, 292 were drilling, 47 were inactive, and the remainder were either locations or rigging up. The week's total was an increase of 16 from the preceding week while the total number of wildcats remained unchanged. The Salem pool led in production with a reported daily output of 86,000 bbl. Louden was second with 55,000 bbl. a day while the new Benton pool of Franklin County ranked third with an average daily production of 27,500 bbl.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Benton	14	3,550	29,858
Dale	4	1,616	11,982
East Calvin	4	540	11,548
Inman	3	520	5,267
Louden	5	685	7,695
N. New Harmony	4	1,488	11,601
Roland	3	470	6,517
West Liberty	2	1,250	5,660
Other pools	20	2,968	47,838
Wildcats	2	84	5,410
Dry holes: Fields*	7	.....	15,667
Wildcats	16	.....	32,652
Total	84	.....	191,695
Recompletions	15	926	.....

*Allendale 3, Boos 1, Dahlgren 1, Mount Carmel 1, Storms 1.

Interest Aroused in Deep Testing in Louden Field

Rumors were circulating in the Louden field last week which aroused the interest of operators in deeper production in the field. The larger size casing set to the Devonian by the Carter Oil Co. in current Devonian tests and the recent purchases and orders for 7-in. casing for the company's contemplated Devonian tests have caused considerable speculation among the operators in the field. Some observers are predicting a deepening campaign by Carter in the near future, possibly to the Trenton or St. Peter.

DEVONIAN DEVELOPMENT.—Whisenant & Trenchard 25-D Henry Lilly, discovery well of Devonian production in the Louden field, is reported to have successfully shut off water which entered the well shortly after completion. The well is now reportedly making a consistent 240-bbl. daily through a small choke. Other Devonian wells in the field, however, continue to make water and uncompleted Devonian wells are testing as much as 90 per cent water. Jarvis Bros. et al 12-D Wright, south offset to the Whisenant & Trenchard Lilly wells was swabbing only 1 bbl. an hour after acid treatment last week while Oil, Inc. 2 Wood, also an offset to the Lilly lease, was flowing naturally at the rate of 5 bbl. an hour.

Interest in the possibilities of finding commercial Devonian production in the southern end of the field was revived last week when the Union Petroleum Co. announced that a test had been started on the Morrison lease in 8-7n-3e. This test is about 1 mile southwest of the Jarvis Bros. et al uncompleted Devonian test on the Yakey lease. Officials of the Union Petroleum Co. said that they are prepared to carry the test on to the Trenton if the Devonian proves unproductive.

Saturation Found At Clinton Test

Most recent of three promising wildcats in the Centralia area, R. & K. Oil 1 Schulte, 2-1n-3w, was waiting on casing at 1,232 ft. at the end of the week. No. 1 Schulte, a Clinton County test 4 miles west of the Bartelso field, was shut down after 2 ft. of Cypress saturation were drilled. Officials of the company have announced that cable tools will be used to drill on into the formation after casing has been cemented.

Kingwood Oil Co. was undecided about setting casing last week at their Jefferson County wildcat, 1 First National Bank, SE NE SW 35-2s-1e, ¾ mile southeast of production in the Woodlawn field. The test showed 200 ft. of oil and 100 ft. of salt water in a 30-minute drill-stem test of the Benoist at 1,963-73 ft. No. 1 First National Bank is reported to be running higher structurally than any of the three producers in the Woodlawn field.

At the end of the week Swan-King 1 Kotva heirs, SW SW NW 36-4n-2e, 6 miles east of the East Patoka field, was drilling below 2,300 ft. No. 1 Kotva heirs found a show of oil and water in the Benoist sand at 1,931-43 ft. and it was reported that the Benoist section will be tested regardless of findings in lower horizons. Present objective of the well is the Devonian lime. However, belief that the Benoist will prove commercially productive was indicated by the fact that Swan-King Oil Co. staked three additional locations on the 40-acre tract immediately upon recovery of the Benoist saturation.

Wayne Wildcat Has Show in McClosky

Operators were running casing last week to test a show of oil in the McClosky at a Wayne County wildcat 2½ miles southeast of Johnsonville. Wiser Oil 1 Hillard, S½ SE SW 27-1n-6e, encountered promising pay in the McClosky and, although the extent of the saturation has not yet been disclosed, observers are confident that the test will be completed as a producing well.

WILDCAT COMPLETIONS

Bond County: Republic Oil 1 J. W. Mitchell, SW SE SE 28-6n-3w, location abandoned.

Champaign County: Union Products 1 Pinnaire, SW NW SW 17-20n-10e, dry at 344 ft., Osage 141 ft., St. Louis 148 ft., Chattanooga 168 ft., Devonian 252 ft., show oil 261-63 ft., 321-23 ft., Silurian 330 ft.

Union Products 1 James, SE SW SE 18-20n-10e, dry at 342 ft., tested water in Devonian.

Union Products 1 Carson, W½ NE NE W 19-20n-10e, dry at 324 ft., Osage 156 ft., St. Louis 198 ft., Chattanooga 215 ft., Devonian 315 ft.

Clark County: Bancroft et al 1 Aetna Life, NW SW SE 7-11n-14w, dry at 863 ft.

Clay County: Schulman Bros. 1 Gile, SW SE SW 10-3n-7e, dry at 2,645 ft., Menard 2,226 ft., Vienna 2,324 ft., Tar Springs 2,333 ft., Glen Dean 2,406 ft., Golconda 2,491 ft., Barlow 2,579 ft., Cypress sand 2,610 ft.

Effingham County: P. Doran 1 Dasenbrock, NW NW SE 16-8n-6e, dry at 2,551 ft., Menard 1,734 ft., Vienna 1,813 ft., Tar Springs 1,857 ft., sand 1,916 ft., Glen Dean 2,009 ft., Barlow 2,138 ft., Cypress sand 2,172 ft., Benoist 2,308 ft., Benoist sand 2,315-26 ft., Renault 2,332 ft., Aux Vases 2,363 ft., Ste. Genevieve 2,402 ft., Rosiclare 2,437 ft., Fredonia 2,465 ft., St. Louis 2,548 ft.

Fayette County: Bremo Dev. 1 Mahan, SE SW NW 3-5n-3e, dry at 2,010 ft.

Ford County: Nelson et al 1 Erp, SW NE SE 19-24n-7e, dry at 3,015 ft., base Pennsylvanian 660 ft., Devonian 800 ft., Silurian 875 ft., Maquoketa 1,485 ft., Galena 1,688 ft., Decorah 1,880 ft., St. Peter 2,112 ft.

Hamilton County: Ryan Oil 1 Hunt, SE SE NE 28-6s-7e, dry at 3,332 ft.

Jefferson County: C. C. Nye 1 Mooney, SW NE NE 21-1s-2e, dry at 2,265 ft., Menard 1,408 ft., Waltersburg 1,438 ft., Waltersburg sand 1,501 ft., Vienna 1,557 ft., Tar Springs 1,565 ft., Glen Dean 1,600 ft., Hardinsburg 1,640 ft., Golconda 1,679 ft., Barlow 1,809 ft., Cypress 1,827 ft., Cypress sand 1,835 ft., Paint Creek 1,888 ft., Benoist 1,977 ft., Renault 2,026 ft., Ste. Genevieve 2,114 ft., Rosiclare 2,131 ft., Fredonia 2,181 ft.

Moultrie County: Olson Drlg. 1 Ekiss, NW NW NE 31-14n-4e, dry at 2,947 ft., Glen Dean 1,395 ft., Golconda 1,470 ft., Cypress sand 1,535 ft., Renault 1,630 ft., Aux Vases 1,650 ft., Ste. Genevieve 1,700 ft., Rosiclare 1,725 ft., Fredonia 1,730 ft., Chattanooga 2,670 ft., Devonian 2,768 ft.

Richland County: J. Davis 1 S. C. Shan, W½ SW NW 27-3n-9e, pumped 42 bbl., 1,000 gal. acid, 3,000 gal. reacid, McClosky 3,036-50 ft., T.D. 3,050 ft., *extension well of South Noble pool.*

C. B. Hill et al 1 Wood, NE SE SE 21-2n-14w, dry at 2,761 ft., P.B. 2,755 ft.

St. Clair County: Gus Kunze 1 McCurdy, SE SW SW 29-3s-6w, dry at 635 ft., Cypress sand 474-500 ft., show gas 500-05 ft., H.F.W. 610 ft.

Shelby County: Olson 1 Atkinson, E½ SE SE 12-13n-3e, dry at 2,960 ft., Glen Dean 1,395 ft., Golconda 1,465 ft., Cypress 1,500 ft., Cypress sand 1,535 ft., Renault 1,605 ft., Aux Vases 1,615 ft., Ste. Genevieve 1,685 ft., McClosky 1,750 ft., St. Louis 1,800 ft., Devonian 2,822 ft.

Moore et al 1 fee, SW SW NE 30-10n-3e, dry, McClosky 1,900 ft., old well deepened from 1,760-1,936 ft.

Wabash County: White & Wickwire 1 Price, NE NW NE SW 14-1n-12w, pumped 42 bbl. oil and 15 bbl. water, ripped casing 1,615-36 ft., Tar Springs sand 1,625-46 ft., T.D. 2,360 ft., P.B. 1,631 ft., *extension well of Allendale pool.*

Paul Osborn 1 Dunkel, NW NW NW 6-1s-12w, dry at 2,520 ft., Glen Dean 1,926 ft., Golconda 2,028 ft., Barlow 2,114 ft., Cypress sand 2,138 ft., Paint Creek 2,239 ft., Renault 2,340 ft., Aux Vases 2,350 ft., Ste. Genevieve 2,416 ft., McClosky 2,449 ft., St. Louis 2,502 ft.

White County: H. K. Riddle 1 Farmer's Nat. Bank of Grayville, W½ SW NW 30-3s-14w, dry at 3,138 ft., Menard 2,215 ft., Tar Springs sand 2,377 ft., Glen Dean 2,452 ft., Hardinsburg sand 2,521 ft., Golconda 2,564 ft., Barlow 2,683 ft., Cypress sand 2,698 ft., Paint Creek 2,836 ft., Renault 2,902 ft., Aux Vases 2,928 ft., Aux Vases sand 2,962 ft., Ste. Genevieve 2,978 ft., McClosky 3,072 ft.

FIELD COMPLETIONS

Clay County

Flora, East: Schulman Bros. 3 Colclasure, SE SW SW 10-3n-7e, pumped 125 bbl. oil and 135 bbl. water, 60-qt. shot in Cypress, Cypress sand 2,586-91 ft., perf. 2,313-26 ft., Vienna 2,306 ft., T.D. 2,600 ft., P.B. 2,395 ft.

Edwards County

Albion: Superior 2 Kiley, SE SE SE 7-2s-11e, pumped 206 bbl., 28 per cent water, perf. 3,140-42 ft., 3,140-53 ft., T.D. 3,164 ft.

Effingham County

Mason: Hinkle et al 1 Jenks, SW NW NE 22-6n-5e, location abandoned.

Louden: Carter 1 Reed, SW NW NW 18-8n-4e, pumped 89 bbl. oil and 1 bbl. water, natural, Cypress sand 1,535-44 ft., T.D. 1,544 ft.

Fayette County

Louden: Luttrell 1 Buzzard, S½ SE NE SE 34-9n-3e, pumped 92 bbl., 10-qt. shot 1,521-31 ft., Cypress sand 1,515-30 ft., T.D. 1,531 ft.

Carter 6 Durbin, W½ W½ NE 4-7n-3e, swabbed 42 bbl. oil and 37 bbl. water, 20-qt. shot 1,551-57 ft., Paint Creek 1,546 ft., T.D. 1,557 ft.

Carter 1 Giles-Miller, SW SE NE 1-8n-3e, swabbed 144 bbl., natural, Cypress sand 1,512-29 ft., T.D. 1,530 ft.

Carter 1 Buzzard, SW NE NE 3-8n-3e, flowed 318 bbl. oil and 70,000 cu. ft. gas, 30-qt. shot 1,496-1,508 ft., Cypress sand 1,488-1,530 ft., T.D. 1,533 ft.

Carter 5 Goetting, NE NW NW 32-8n-3e, pumped 10 bbl. oil and 8 bbl. water, 10-qt. shot 1,558-61 ft., 20-qt. shot 1,559-67 ft., 5-qt. shot 1,555-57 ft., old well worked over, T.D. 1,585 ft.

Carter 2 Raymond Comm. No. 64, SW SE NE 29-8n-3e, pumped 40 bbl., 30-qt. shot 1,374-94 ft., old well worked over, T.D. 1,512 ft.

Carter 2 K. Owens, NE NE SW 29-8n-3e, pumped 25 bbl. oil and 15 bbl. water, 20-qt. shot 1,471-79 ft., 10-qt. shot 1,410-14 ft., old well worked over, T.D. 1,512 ft.

Carter 3 B. Kinbrell, SE SE NW 29-8n-3e, pumped 24 bbl. oil and 3 bbl. water, 30-qt. shot 1,393-1,414 ft., old well worked over, T.D. 1,496 ft.

Carter 2 Dare, E½ SE NW 15-8n-3e, flowed 240 bbl., 30-qt. shot 1,430-42 ft., old well worked over, T.D. 1,512 ft.

Carter 1 Bartimus, W½ SE NE 15-8n-3e, pumped 195 bbl. in 12 hr., 30-qt. shot 1,410-22 ft. in Cypress, old well deepened from 1,498-1,534 ft., P.B. 1,520 ft.

Carter 6 O. Harper, NE NW SW 17-7n-3e, pumped 14 bbl. oil and 2½ bbl. water, 10-qt. shot 1,509-13 ft., old well worked over, T.D. 1,579 ft.

Franklin County

Benton: McBride 1 G. Chapman, SE NW SE 23-6s-2e, pumped 182 bbl. oil and 148 bbl. water, Tar Springs 2,068 ft., T.D. 2,095 ft., P.B. 2,092 ft.

Menhall 1 Rea, NW SW SW 24-6s-2e, pumped 240 bbl., 20-qt. shot on bottom, Tar Springs 2,054 ft., T.D. 2,087 ft.

Shell 8 C. W. & F. Coal, NE NE SW 24-6s-2e, pumped 69 bbl. oil and 2 bbl. water, 15-qt. shot 2,088-2,105 ft., Tar Springs sand 2,085 ft., T.D. 2,105 ft.

Adkins 3 Chenault, SW NE SE 25-6s-2e, pumped 157 bbl., 30-qt. shot 2,113-31 ft., Tar Springs 2,100 ft., T.D. 2,131 ft.

Frazier 2 C. W. & F. "Q." SW NE SW 25-6s-2e, pumped 355 bbl., 40-qt. shot 2,131-58 ft., Tar Springs 2,126 ft., T.D. 2,158 ft.

Menhall 2 Moore, SE SW NW 25-6s-2e, pumped 250 bbl., 20-qt. shot on bottom, Tar Springs 2,136 ft., T.D. 2,148 ft.

Menhall 3 Moore, SE NW SW 25-6s-2e, pumped 300 bbl., 20-qt. shot on bottom, Tar Springs 2,137 ft., T.D. 2,170 ft.

Menhall 1 Mosley, SE NW NW 25-6s-2e, pumped 416 bbl., 20-qt. shot on bottom, Tar Springs 2,095 ft., T.D. 2,145 ft.

Wegener 4 Chenault, SE NW SE 25-6s-2e, pumped 341 bbl., 20-qt. shot 2,105-32 ft., Tar Springs 2,098 ft., T.D. 2,132 ft.

Adkins 3 Orient "R," NE SE NE 26-6s-2e, pumped 175 bbl., 30-qt. shot 2,128-40 ft., Tar Springs 2,118 ft., T.D. 2,141 ft.

Adkins 2 C. W. & F. "W," NE NE NW SE 36-6s-2e, pumped 296 bbl., 40-qt. shot 2,097-2,127 ft., Tar Springs 2,080 ft., T.D. 2,127 ft.

Shell 8 C. W. & F. "R-S," SE NW NW 36-6s-2e, pumped 325 bbl., 30-qt. shot 2,144-74 ft., Tar Springs sand 2,113-79 ft., T.D. 2,179 ft.

Shell 4 C. W. & F. "T," N½ SW SW NE 36-6s-2e, pumped 348 bbl., 30-qt. shot 2,105-35 ft., Tar Springs sand 2,076-2,145 ft., T.D. 2,145 ft.

Pruitt 2 Minier, SW SW SW 30-6s-3e, pumped 78 bbl., 30-qt. shot on bottom, Tar Springs 2,092 ft., T.D. 2,125 ft.

Pruitt 3 Minier, SE SW NW 30-6s-3e, location abandoned.

Gallatin County

Inman: N. V. Duncan 1 Leach, NE NW SW 15-8s-10e, pumped 272 bbl., 20-qt. shot 2,063-78 ft., Tar

Springs 2,056-84 ft., Cypress sand 2,389-2,446 ft., T.D. 2,446 ft.
Halbert et al 6 Curry, NE SW NW 15-8s-10e, pumped 215 bbl., 20-qt. shot 2,069-80 ft., Tar Springs 2,058 ft., T.D. 2,080 ft.
Phillips 5 Egyptian Tie & Timber, NE SE NE 16-8s-10e, pumped 33 bbl. oil and 33 bbl. water, 25-qt. shot 781-91 ft., Pennsylvanian sand 780 ft., T.D. 791 ft.

Hamilton County

Hoodville: Sinclair 9 Friel-A, SW NE SE 34-5s-6e, pumped 25 bbl., Aux Vases 3,056-62 ft., old well deepened from 2,961-3,066 ft., P.B. 2,957 ft.
Texas 1 E. McDonald, NW NE SW 11-6s-6e, flowed 106 bbl., natural, Aux Vases 3,071-78 ft., T.D. 3,078 ft.
Dale: Cameron Bros. 2 Kern, NW SE SW 7-6s-7e, flowed 524 bbl., natural, Benoist 2,902 ft., Aux Vases 3,014-30 ft., T.D. 3,030 ft.
Pure 5 E. Cuppy, NE NE NW 7-6s-7e, flowed 477 bbl., natural, Aux Vases 2,942 ft., pay 2,948-62 ft., T.D. 2,980 ft.
Texas 1 Clark, NW SE NW 7-6s-7e, flowed 224 bbl. in 18 hr., natural, Aux Vases 2,957 ft., T.D. 2,985 ft.
Texas 5 M. Davis, SE SE NW 7-6s-7e, pumped 391 bbl., natural, Aux Vases 2,958-68 ft., T.D. 2,987 ft.
Dahlgren: Hall-Jordan 1 Zellars, SW NW SW 26-3s-5e, dry at 3,334 ft., McClosky 3,321-31 ft., Aux Vases 3,177 ft.
Sinclair 9 M. Hall, SE SE SE 27-3s-5e, pumped 206 bbl., 5,000 gal. acid, McClosky 3,316-25 ft., T.D. 3,334 ft.
Sinclair 10 Hall, SW SE SW 27-3s-5e, swabbed 77 bbl., 5,000 gal. acid, McClosky 3,284-88 ft., T.D. 3,295 ft.

Jasper County

Boos: Pure 2 Bigard "A," N½ SW NW 33-6n-10e, dry at 2,835 ft., Glen Dean 2,282 ft., Barlow 2,426 ft., sand 2,447 ft., Ste. Genevieve 2,757 ft., Rosiclare 2,769 ft., Fredonia 2,787 ft.
North Boos: Pure 1 Eckl Consol., NE SE NE 8-6n-10e, flowed 639 bbl., 5,000 gal. acid, McClosky 2,784-97 ft., T.D. 2,830 ft.
West Liberty: Pure 1 Beavers, E½ NE NE 18-5n-10e, pumped and flowed 1,130 bbl., 5,000 gal. acid, McClosky 2,791-2,802 ft., 2,818-22 ft., T.D. 2,835 ft.
Pure 1 Cunningham, W½ NE NE 8-5n-10e, flowed 120 bbl., 5,000 gal. acid, McClosky 2,779-84 ft., 2,809-12 ft., T.D. 2,825 ft.

Lawrence County

Bridgeport: Alford Pet. 1 Seed, N½ NE NE NW 29-3n-12w, pumped 28 bbl., 40-qt. shot 1,869-82 ft., Benoist 1,864-82 ft., T.D. 1,882 ft.

Marion County

Salem: Magnolia 79 Young, SE SE SE 20-2n-2e, swabbed 79 bbl., Trenton 4,527 ft., 210-qt. shot 4,560-4,650 ft., old well deepened to 4,655 ft.
Magnolia 39 Shanafelt, SE SE SW 29-2n-2e, flowed 45 bbl., 205-qt. shot 4,500-91 ft., Trenton 4,464 ft., old well deepened to 4,595 ft.
Texas 15 Shanafelt, NE NE NE 29-2n-2e, pumped 100 bbl., Trenton 4,521 ft., old well deepened to 4,636 ft.
Texas 15 Dunning, SW SE SE 30-2n-2e, pumped 59 bbl., Trenton 4,517 ft., old well deepened to 4,627 ft.
Texas 22 McCollum, SW NW NE 32-2n-2e, pumped 61 bbl., Trenton 4,500 ft., old well deepened to 4,622 ft.
Patoka: Adams O. & G. 4 Cox, NW NE SW 29-4n-1e, pumped 10 bbl., 40-qt. shot 1,412-43 ft., Benoist 1,401-43 ft., T.D. 1,413 ft.
East Patoka: Shell 2 Clark "A," NE NE SE 34-4n-1e. pumped 350 bbl. oil and 45 bbl. water, 13-qt. shot 1,339-59 ft., Cypress sand 1,331-59 ft., T.D. 1,359 ft.
Tonti: Absher & Booth 10 McMackin, SE SW SW 34-3n-2e, pumped 90 bbl. oil and 20 bbl. water, natural, 15-qt. shot 2,022-37 ft., Aux Vases 2,000 ft., T.D. 2,037 ft.

Richland County

Dundas: Pure 2 Tippit, W½ NE NE 31-5n-10e, flowed 383 bbl., 5,000 gal. acid, McClosky 2,837-39 ft., 2,844-49 ft., T.D. 2,865 ft.

St. Clair County

Dupo: C. Wise 4 Strickler, E½ NW NE 33-1n-10w, pumped 50 bbl. oil and 200 bbl. water, 20-qt. shot on bottom, Trenton 688 ft.

Wabash County

Allendale: Joe Young 1-A Stillwell, SW NE SE 1-1n-12w, dry at 1,460 ft., junked hole.
Stiles 1 Tremble, SE SE SE 35-2n-12w, pumped 65 bbl. oil and 10 bbl. water in 16 hr., 20-qt. shot 1,980-91 ft., Benoist 2,977-90 ft., T.D. 2,991 ft.
Hayes & Young 1 Trimble, W½ NW NW SE 36-2n-12w, dry at 2,020 ft., Menard 1,436 ft., Vienna 1,486 ft., Waltersburg sand 1,536 ft., Tar Springs 1,552 ft., Glen Dean 1,677 ft., Barlow 1,832 ft., Cypress sand 1,890 ft., Benoist 1,993 ft.
Jackson 2 Freeman, NW SE NE 36-2n-12w, dry at 1,439 ft., Waltersburg sand 1,425-39 ft., tested water.
Mount Carmel: Aspin 1 Hadden, SW NW SW 21-1s-12w, pumped 160 bbl., 30-qt. shot on bottom, Cypress sand 2,022-33 ft., T.D. 2,033 ft.
Lacy 2 Sturman, N½ SE SW NW 21-1s-12w, pumped 50 bbl. oil and 20 bbl. water, 30-qt. shot on bottom, Cypress 2,045 ft., T.D. 2,063 ft.
Roberts & George 1 Munday, SE SE SW 21-1s-12w, dry at 2,321 ft., P.B. 2,011 ft.

Wayne County

West Enterprise: Pure 3 J. Elliott, E½ NE SW 1-1n-7e, pumped 17 bbl. oil and 2 bbl. water, 1,500 gal. acid, 4,000 gal. reacid, Fredonia 3,003 ft., pay 3,016-21 ft., T.D. 3,030 ft.
North Enterprise: Pure 1 W. H. Drake, NE SE SW 30-2n-8e, pumped 50 bbl., 5,000 gal. acid, Fredonia 3,038-47 ft., 3,053-57 ft., perf. 2,937-61 ft. in Aux Vases, Aux Vases 2,938-53 ft., T.D. 3,064 ft., P.B. 2,967 ft.
Pure 2 Garrison "A," SE NE NW 31-2n-8e, pumped 179 bbl., Aux Vases 2,908 ft., T.D. 2,023 ft., P.B. 2,955 ft.
Clay City: Pure 1 L. E. Hosselton "B," E½ SE SW 21-2n-8e, pumped 49 bbl. natural, Cypress sand 2,624 ft., T.D. 2,633 ft.

White County

Storms: P. W. Anderson 1 N. Storms, NW SW NE 23-6s-9e, dry, Waltersburg 2,230 ft., Tar Springs sand 2,295 ft., old well deepened from 2,251-2,308 ft., P.B. 2,286 ft.
Eason Oil 7 Storms, SE SW SW 14-6s-9e, dry at 2,258 ft., Waltersburg sand 2,233 ft., tested water.
Roland: Fischer Oil and Arrow Drlg. 3 Ellis, NE SE SW 11-7s-8e, pumped 160 bbl. oil and 20 bbl. water, 30-qt. shot 2,157-65 ft., Waltersburg 2,146 ft., T.D. 2,165 ft.
Lewis Prod. 2 Mitchell, SE NE SW 11-7s-8e, pumped 125 bbl. oil and 22 bbl. water, Waltersburg 2,165 ft., T.D. 2,174 ft.
Tide Water 1 Baker, NW SE SE 11-7s-8e, flowed 185 bbl., 10-qt. shot 2,172-77 ft., Waltersburg 2,134 ft., pay 2,163-78 ft., T.D. 2,178 ft.
West Irons: N. V. Duncan 2 Henson, E½ SW SW NE 23-6s-8e, pumped 125 bbl., Tar Springs 2,442 ft., T.D. 2,452 ft.
East Calvin: Compton et al 2 Gray, SE SW SW 21-4s-14w, flowed 400 bbl., 100-qt. shot 2,841-66 ft., Aux Vases sand 2,836-51 ft., T.D. 2,868 ft.
First Nat. Pet. Trust 1 Smith, SE NE SW 5-4s-14w, pumped 10 bbl., 70-qt. shot 2,895-2,924 ft., 300-qt. shot 2,895-2,924 ft., Aux Vases 2,891-2,903 ft., T.D. 2,924 ft.
Buell & Herndon 10 J. Bond, SE SE NW 8-4s-14w, pumped 70 bbl., 100-qt. shot 2,804-36 ft., Aux Vases 2,804-56 ft., T.D. 2,837 ft., whipstock at 2,685 ft., new T.D. 2,794 ft.
North New Harmony: Arrow Drlg. 2 Hon "C," SE SE SE 32-3s-14w, swabbed and flowed 1,028 bbl., 4,000 gal. acid, perf. 2,872-82 ft., 2,928-38 ft., McClosky 2,874-81 ft., 2,928-38 ft., 2,950-56 ft., T.D. 2,963 ft.
Schuler et al 2 Smith, SW SE SW 5-4s-14w, pumped 60 bbl. oil and 50 bbl. water, 40-qt. shot 2,898-2,906 ft., Aux Vases 2,882 ft., T.D. 2,919 ft., P.B. 2,906 ft.
Rockhill 2 Reeves, NW SW NE 28-3s-14w, pumped 125 bbl., 1,500 gal. acid, 80-qt. shot 2,842-64 ft. Aux Vases 2,827 ft., McClyosky 2,906 ft., T.D. 2,923 ft., P.B. 2,911 ft.
Superior 14 L. & M. Ford, NE NW SE 28-4s-14w, pumped 175 bbl., 10 per cent salt water, 120-qt. shot 2,821-50 ft., 400-qt. shot 2,824-50 ft., Aux Vases 2,817 ft., T.D. 2,850 ft.
First Nat. Pet. Trust 4 Ford heirs, SW NE SW 22-4s-14w, swabbed 160 bbl., 70-qt. shot 2,839-65 ft., 400-qt. shot 2,839-65 ft., Aux Vases 2,849 ft., T.D. 2,865 ft.

ILLINOIS DRILLING REPORT

Bond County: K. Woolsey 1 Chester Sapp, NE NE SW 22-5n-4w, T.D. 640 ft., sand 602 ft., pumped 5 bbl. a day, testing.
Schwarz 1 Studebaker, SE SE SW 21-6n-2w, drill pipe stuck at 2,333 ft.
Christian County: W. Marlow 1 Howell, SE SE NE 26-15n-2w, T.D. 1,343 ft., underreaming 8-in. at 710 ft.
Clay County: Kilpatrick 1 N. Irvin, NW SW NW 5-5n-5e, first report, 10-in. 83 ft., drilling 1,811 ft.

(Continued on Page 72)

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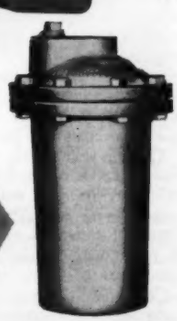

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Ward and Pecos County Pool Openers in Testing Stage

By R. MARNE SANFORD

MIDLAND, Tex., June 30.—New oil discoveries are in the testing stages in both Ward and Pecos counties. Some 2¼ miles west of the north end of production in the Estes field of Ward County the Stanolind 1 Spencer-Evans, Section 53, Block 34, H.&T.C. Survey, reported a preliminary gage of 25 bbl. hourly at the close of the week. In northern Pecos County a new shallow Permian lime producing spot has been opened east of the deep Abell field.

No. 1 Spencer-Evans was last reported shut after the 25-bbl. hourly flow of which 70 per cent was oil and 30 per cent mud and sulfur water. It had kicked off through 2-in. tubing set at 2,950 ft. after being washed in following the drilling of plug from 5½-in. casing cemented at 2,910 ft. Oil shows were drilled from 2,920 to 2,990 ft., total depth. Before final gage the well may be plugged back in an attempt to shut off the sulfur water believed coming from the bottom of the hole. The discovery is believed to be on a separate structure along the lime reef trend of production so prolific throughout eastern Ward County.

SUMMARY OF COMPLETIONS

Southern West Texas

	No.	Bbl.	Footage
Oil: Goldsmith	2	1,771	8,438
Tobarg	2	65	769
Waddell	4	6,376	22,371
Other fields	6	2,828	22,394
Gas: Waddell	1	*6.66	3,117
Dry: Wildcats	1	.....	1,950
Total	16	.....	59,039

*Million cu. ft.

Northern West Texas

	No.	Bbl.	Footage
Oil: Chalk	2	1,116	5,714
Seminole	5	2,813	26,489
Slaughter	17	18,126	85,484
Wasson	5	3,780	25,701
Sharon	1	337	3,096
Dry: Wildcats	1	.....	4,517
Total	31	.....	151,001

Permian Oil Found East of Abell

The discovery well from the shallow Permian lime east of the deep Abell field in Pecos County was a test plugged back after drilling to the Ellenburger lime in search of the deep Simpson pay of the Abell field. It is Stanolind 1 Conry-Davis, Section 31, Block 9, H.&G.N. Survey, 4 miles east of Abell, and is being tested from 3,710-3,810 ft. Casing was perforated with 100 shots at this level and the hole filled 1,500 ft. with oil.

Another well in the same area and a north offset to 1 Conry-Davis, the Stanolind 1 Meyer-Logan, was started shortly after the initial test on the lease, and is also preparing for completion from the new pay level. The 1 Meyer-Logan showed a recovery of 420 ft. of oil and 20 ft. of oil-cut mud on a 30-minute drill-stem test from 3,720-45 ft. The 5½-in. casing is being cemented for completion attempts the first of the week. No. 1 Conry-Davis was carried through the Ellenburger lime and into granite before being plugged back to test the upper show. The Simpson lime producing in the Abell field was missed entirely in the outpost tests.

Abell Field Extended South

A short south extension for the still partially undefined Abell field of northern Pecos County was registered the past week when Magnolia gaged its 1 Bowman heirs, wide south offset to the Phillips 1 Silverman. The new test made 280 bbl. of oil through 2-in. tubing, natural, on a 4-hour official gage. Saturation was found from 5,170-80 ft., total depth. It is located 330 ft. from the northeast and northwest lines of the SW¼ N¼ Section 5, Block 3, H.&T.C. Survey.

SOUTHERN WEST TEXAS COMPLETIONS

(24-hr. ratings based on last 3 hr. of 6-hr. gage)

Wildcat

Upton County: H. C. Wheeler 1 Radford Gro., 2,173 ft. from N line and 467 ft. from E line Sec. 1, G.C.& S.F. Sur., dry at 1,950 ft.

Fields

Estes, Ward County: Gulf 147 O'Brien, 491 bbl., 850-qt. shot, 2,607-3,096 ft.
Foster, Ector County: Forest Development 4-G Moss, 345 bbl., ¾-in. choke, 450-qt. shot, 4,140-4,290 ft., T.D. 4,298 ft.
Goldsmith, Ector County: Gulf 356 Goldsmith, 209 bbl., 62-qt. shot, 4,196-4,222 ft., T.D. 4,227 ft.
Gulf 359 Goldsmith, 1,562 bbl., 4,000 gal. acid, 4,149-4,211 ft.
McElroy, Upton County: Gulf 246 McElroy, 412 bbl., 830-qt. shot, 2,983-3,161 ft.
Sealy, Ward County: Magnolia 5-41 Sealy, 399 bbl., 22/64-in. choke, 200 gal. acid, 2,911-16 ft.
Shipley Deep, Ward County: Gulf 6 Wristen, 782 bbl., 20,000 gal. acid, 120-qt. shot, 7,032-80 ft.
Taylor-Link, Pecos County: H. G. Eastham 2-D University, 399 bbl. oil and 16 bbl. water, pumping, 1,000 gal. acid, 1,705-1,839 ft., T.D. 1,843 ft.
Tobarg, Pecos County: Stanolind 9-B Smith, 11 bbl. oil and 133 bbl. water, pumping, 370-394 ft.
Stanolind 19-A Tippett, 54 bbl. oil and 13 bbl. water, pumping, 331-375 ft.
Waddell, Crane County: Gulf 42 Waddell, 38 bbl. oil and 19 bbl. water, 4,000 gal. acid, 270-qt. shot, 3,460-3,526 ft., P.B. from 3,610 ft.
Gulf 22 Waddell, 5,216 bbl., 5,000 gal. acid, 4,354-4,595 ft.
Gulf 24 Waddell, 731 bbl. oil plus 4 per cent water, 5,000 gal. acid, 4,350-4,570 ft.
Magnolia 1 Lea, 391 bbl., 20/64-in. choke, 15,000 gal. acid, 4,390-4,563 ft.
Magnolia 7 Lea, 6,660,000 cu. ft. gas, 2,000 gal. acid, 2,700-3,117 ft.

Lynn and Garza County Wildcats Planned

New wildcats were preparing to start in two north Permian basin counties and are destined to be as closely watched as any drilled in some time. They are one each for Lynn and Garza counties.

Ross Sport and associates plan to start by the coming week a 5,500-ft. wildcat test 2 miles northeast of New Home in the north part of Lynn County. The wildcat will be 1 Rice, 660 ft. from the north and west lines of Section 18, Block 11, E.L. Ry. Survey. Several deep tests have been drilled in nearby Terry and Garza counties; however, few deep projects have completed contract in this section of Lynn County.

The second test and in Garza County immediately to the east is Ed McAdams et al of Lubbock 1 K. Stoker, 1,320 ft. from the south and east lines of NE Section 842, Block 97, H.&T.C. Survey, in the southern part of the county and about 6 miles south and slightly east of the town of Post. It will be drilled with cable tools to a depth of 3,500 ft. in search of the Westbrook pay producing in the Sharon field in Scurry County to the south.

Deep Hale Test Gets Granite

Believed to be the first wildcat drilled by three affiliated Standard Oil Co. firms, the deep Hale County test projected to 9,000 ft. has entered granite and is being plugged back. It is Humble, Standard of Texas and Stanolind 1 A. F. Byrd, Section 17, Block K, T.T. Survey, in the southwestern part of the county. Granite was topped at 6,760 ft. and it is being plugged back to 5,250 ft. to tests shows at that level. The test topped the anhydrite at 1,115 ft., salt at 1,180 ft., Yates sand 1,400 ft., San Andres lime 2,230 ft., San Angelo at 3,470 ft. Deeper tops were not released.

Production in Terry County, dimmed last week by salt-water shows, was still definitely in the offing at Texas Co. 1 Murphy, Section 22, Block K, P.S.L. Survey, 6 miles north of Tokio in the west central part of the county. With shows of oil drilled from 5,230 to 5,275 ft. and after second-stage acid treatment with 3,000 gal. following 135 perforations in the 5½-in. casing the well swabbed 150 bbl. of fluid, 50 per cent water, in 12 hours. Production had first been indicated 2 weeks ago when the saturated zone was drilled. The development of commercial production will mark the first oil discovery in Terry County, there being a few extension wells from the Slaughter field producing in the extreme northern part.

NORTHERN WEST TEXAS COMPLETIONS

(24-hr. ratings based on last 3 hr. of 6-hr. gage)

Wildcats

Andrews County: Mascho Oil 1 University-Gulf, NW cor. Sec. 19, Blk. 9, University Lands Sur., dry at 4,517 ft.

Fields

Chalk, Howard County: Ennisbrook Oil 21 Texas Ld. & Mfg., 1,027 bbl., 4,500 gal. acid, 755-qt. shot, 2,635-2,895 ft.
Sinclair-Prairie 68 Dodge, pumping 89 bbl., 610-qt. shot, 2,625-2,819 ft.
Sharon, Scurry County: Coffield & Guthrie 5 First National Bank, 337 bbl., 472-qt. shot, 2,607-3,096 ft.
Seminole, Gaines County: Amerada 8 Riley, 716 bbl., ½-in. choke, 2,000 gal. acid, 5,092-5,260 ft.
Amerada 5-A Riley, 712 bbl., flowing natural, ½-in. choke, 5,124-5,325 ft.
Amerada 9 Turlin, 769 bbl., ½-in. choke, 156-qt. shot, 5,215-5,320 ft.
Magnolia and Atlantic 1-189 H.&J., 97 bbl. oil and 16 bbl. water, ½-in. choke, 6,000 gal. acid, 5,190-5,259 ft.
Magnolia and Atlantic 11-217 H.&J., 519 bbl., ½-in. choke, 6,000 gal. acid, 5,200-5,325 ft.
Slaughter, Cochran County: Anderson-Prichard 1 Woodley, 738 bbl., 9,500 gal. acid, 4,925-81 ft., T.D. 5,010 ft.
Atlantic 6 Boyd, 867 bbl., 2½-in. casing outlet, 10,000 gal. acid, 4,940-5,049 ft.
Atlantic 8 Boyd, 739 bbl., 10,000 gal. acid, 4,950-5,061 ft.
Atlantic 14 Boyd, 1,296 bbl., 2½-in. casing outlet, 10,000 gal. acid, 4,956-5,035 ft.
Cascade 2 Igoe Smith, 803 bbl., 10,000 gal. acid, 4,930-83 ft.
Devonian 4 Boyd, 1,181 bbl., 3-in. casing outlet, 13,000 gal. acid, 4,994-5,057 ft.
Honolulu Oil 4-A Mallett, 585 bbl., 4,500 gal. acid, 5,002-27 ft., T.D. 5,210 ft.
Geo. P. Livermore 3 Boyd, 1,079 bbl., 2-in. casing outlet, 12,000 gal. acid, 4,993-5,041 ft.
Magnolia 5-J Mallett, 1,367 bbl., 3-in. casing outlet, 10,500 gal. acid, 5,000-60 ft.
Magnolia 6 Woodley, 632 bbl., 2½-in. casing outlet, 10,500 gal. acid, 4,935-70 ft.
Slaughter, Hockley County: Delta 3-D Slaughter, location abandoned.
Delta 4-D Slaughter, location abandoned.
Magnolia 6-G Mallett, 1,288 bbl., 3-in. casing outlet, 10,500 gal. acid, 4,963-5,025 ft.
S. W. Richardson 3 Coe, 931 bbl., 2-in. casing outlet, 10,000 gal. acid, 4,885-4,985 ft.
S. W. Richardson 2-C Slaughter, 1,427 bbl., 2-in. casing outlet, 10,000 gal. acid, 4,900-95 ft.
S. W. Richardson 5-C Slaughter, 1,392 bbl., 2-in. casing outlet, 10,000 gal. acid, 4,900-95 ft.
Stanolind 21-B Slaughter, 1,006 bbl., 2½-in. casing outlet, 8,750 gal. acid, 4,955-5,037 ft.
Tide Water 2 Slaughter, 551 bbl., 9,000 gal. acid, 4,860-4,962 ft.
Western States 9 Frazier, 2,244 bbl., 3-in. casing outlet, 9,000 gal. acid, 4,943-5,009 ft.
Wasson, Gaines County: A. G. Carter 3 Sharp, 977 bbl., 9,000 gal. acid, 4,865-4,975 ft.
Wasson, Yoakum County: Aloco Oil 6 White, 739 bbl., 10,000 gal. acid, 4,985-5,200 ft.
Denver Prod. 6-A Whittenberg, 1,286 bbl., 12,000 gal. acid, 4,825-5,156 ft.
Drilling & Exploration 1-A Hudson, 392 bbl. oil plus 4 per cent water, 10,000 gal. acid, 4,850-5,100 ft.
North Shore 5 Bennett, 386 bbl., 1-in. choke, 8,000 gal. acid, 5,100-5,270 ft.

PANHANDLE COMPLETIONS

Carson County: Cities Service 40 Burnett, 18,500,000 cu. ft. gas at 2,610 ft.
Gray County: Conner & Crenshaw 4 Holmes, 151 bbl. at 3,258 ft.
King Oil 8 Donklin, 139 bbl. at 3,281 ft.
Shell 13 Finley, 205 bbl., at 2,901 ft.
Skelly 124 Schaffer, 373 bbl. at 3,305 ft.
Hutchinson County: Phillips 66 Cockrell, 127 bbl. at 2,955 ft.
Phillips 72 Cockrell, 130 bbl. at 3,090 ft.
Phillips 8 Kay, 157 bbl. at 3,206 ft.
Wheeler County: Portman & Jenkins 3 Sloss, 358 bbl. at 2,092 ft.

SOUTHEAST NEW MEXICO COMPLETIONS

Wildcat

Lea County: Helmerich & Payne 1 Phillips, NW SW 3-14-38, dry at 5,635 ft.

Fields

Eaves, Lea County: Continental 2-B-19 Eaves, NE NW 19-26-37, 300 bbl. at 3,040 ft.
Jackson, Eddy County: Aston & Fair 3 Hudson, SW NW 17-17-31, 100 bbl. at 3,497 ft.
Danciger 10-A Turner, NW SE 18-17-31, 300 bbl. at 3,465 ft.
Mattix, Lea County: R. Olsen 3 Blinebry, NW SW 29-23-37, 180 bbl. at 3,575 ft.
South Eunice, Lea County: Cities Service 6-B Closson, SW NW 20-22-36, 500 bbl. at 3,805 ft.

Drilling Report

Chaves County: Elliott 1 State, NW NE 16-11-31, S.D. 3,992 ft.
Roxana 1 Maull, NE NW 11-12-25, drilling 1,115 ft.
Wilson 1 Brown, NW NW 29-11-23, drilling 2,000 ft.
Eddy County: Flynn 1 Evans, SW SW 18-17-25, drilling 570 ft.
Hegwar 1 Root, NW NE 12-17-29, fishing 1,870 ft.

California Fields

(Continued from Page 67)

pointed out that it would bring full utilization of reservoir pressure and gas energy for maximum ultimate oil recovery.

Joint Operation Planned for Test Northwest of El Segundo

Richfield Oil Corp., Shell Oil Co., Inc., Texas Co., Tide Water Associated Oil Co., Standard Oil Co., and Union Oil Co. are planning to drill a wildcat northwest of the El Segundo field in Los Angeles Basin on acreage purchased in fee several years ago as a joint venture. The acreage purchased by this group consists of approximately 1,500 acres and was purchased in fee for about $1,000,000 on the possibility that commercial production might be developed. Each operator has an undivided one-sixth interest. This group of operators decided to buy the acreage jointly because no one or two operators felt justified in paying such a high price for unproved acreage.

The price paid for this parcel will probably turn out to be a good buy even if no production is developed because the land value of the property is around $1,000 per acre for subdivision purposes. At the time this property was bought, it looked like a very likely spot for additional drilling and for this reason it should prove equally as attractive today. The bank holding title refused to lease the property for drilling at the time and the only thing that could be done was to buy it in fee.

LOS ANGELES BASIN COMPLETIONS

Coyote East, Orange County: C. W. Camp 2-1 Coyote, 19-3s-9w, pumped 35 bbl., 18.9-gravity, 30 per cent cut, T.D. 3,410 ft., P.B. 3,360 ft., perf. 3,160-3,410 ft., production test at 3,410 ft. showed all water, no oil.

Dominguez, Los Angeles County: Edgemont Pet. Co. 1 Dominguez, 29-3s-13w, abandoned, T.D. 7,627 ft., seventh and eighth Callender zones contained gray sand, abandonment defines northern limits of production in west end of field.

Shell 110 Reyes, 33-3s-13w, flowed 380 bbl., 30.4-gravity, 2.8 per cent cut, 300,000 cu. ft. gas, 38/64-in. bean, pressures 250/400 lb., T.D. 8,040 ft., P.B. 7,926 ft., perf. 7,402-7,920 ft., completed in eighth Callender zone of Miocene age.

Union 11 Austin, 29-3s-13w, flowed 1,227 bbl., 31.8-gravity, 4 per cent cut, 1,398,000 cu. ft. gas, 3-in. bean, pressures 150/500 lb., T.D. 7,210 ft., perf. 7,147-7,210 ft., completed in seventh Callender zone of Miocene age.

Huntington Beach, Orange County: Signal O. & G. Co. 21-B Bolsa, 34-5s-11w, flowed 576 bbl., 27.1-gravity, 1 per cent cut, 1,641,000 cu. ft. gas, 21/64-in. bean, pressures 660/780 lb., T.D. 2,490 ft., perf. 1,960-2,489 ft., completed in Bolsa zone of Pliocene age.

Wilmington, Los Angeles County: L.B. Oil Dev. Co. 28-W Harbor, 10-5s-13w, flowed 248 bbl., 17.4-gravity, 1.2 per cent cut, 48/64-in. bean, pressures 150/175 lb., T.D. 3,690 ft., P.B. 3,625 ft., perf. 3,240-3,340 ft., 3,410-3,624 ft., completed in Ranger zone.

Selegna Pet. Corp. 5 Harbor, 32-4s-13w, pumped 190 bbl., 14.1-gravity, 10 per cent cut, T.D. 3,630 ft., redrilled 3,590 ft., gravel packed perf. 2,650-2,832 ft., 2,872-2,987 ft., 3,027-3,137 ft., 3,232-3,578 ft., recompleted in Ranger zone.

Union Pacific R. R. 34-E Edison, 3-5s-13w, flowed 148 bbl., 27.2-gravity, 0.2 per cent cut, 1,428,000 cu. ft. gas, 48/64-in. bean, pressures 980/1,250 lb., T.D. 3,515 ft., gravel packed perf. 2,914-15 ft., 2,935-92 ft., 3,013-3,515 ft., completed in Ranger and Terminal zones.

Union Pacific R. R. 180 fee, 4-5s-13w, flowed 360 bbl., 30.6-gravity, 3 per cent cut, 48/64-in. bean, pressures 110/500 lb., T.D. 5,427 ft., 60-mesh perf. 4,761-4,950 ft., 5,002-92 ft., 5,222-84 ft., 5,375-5,421 ft., completed in Ford zone.

Wilton Oil Co. 12 Comm., 32-4s-13w, flowed 185 bbl., 16.2-gravity, 3 per cent cut, 128/64-in. bean, pressures 35/100 lb., T.D. 3,712 ft., gravel packed perf. 3,015-3,120 ft., 3,170-3,270 ft., 3,370-3,712 ft., completed in upper and lower Terminal zones.

LOS ANGELES BASIN OUTPOSTS OR DEEP TESTS

Dominguez, Los Angeles County: Dominguez Associates 1 Clark, 29-3s-13w, drilling 5,891 ft. in sand, elev. 35 ft.

Lebow & Richardson 1 Bouska, 29-3s-13w, building rig west side of Main Street, elev. 35 ft.

Hiles-Crawford and associates 1 Willis, 29-3s-13w, drilling in sand and shale 7,152 ft., elev. 35 ft.

R. E. Havenstrite 7 Larronde, 29-3s-13w, rigging up and preparing to spud.

Johnson and Richardson 1 Clemar, 29-3s-13w, drilling 7,253 ft. in oil sand and shale, elev. 35 ft.

N. W. Dominguez Oil Co. 1 Grant, 29-3s-13w, drilling 6,962 ft. in sand, elev. 35 ft.

M. P. R. Oil Co. 1 Barnett, 29-3s-13w, drilling 6,584 ft. in sand, elev. 32 ft.

West Dominguez Associates 1 Gross, 29-3-13w, T.D. 7,302 ft. in gray sand, P.B. 6,026 ft., redrilling 6,684 ft., elev. 35 ft.

Inglewood district, Los Angeles County: R. R. Bush Oil Co. 1 Merchants, 7-2s-14w, drilling in sandy shale 8,198 ft., elev. 190 ft.

R. R. Bush Oil Co. 1 Smith, 7-2s-14w, T.D. 8,188 ft. in sand and shale, fishing drill pipe, Nodular shale 8,100 ft., elev. 185 ft.

Federal Oil Co. 2 Smith, 7-2s-14w, drilling 7,998 ft. in sandy shale, Nodular shale 7,800 ft., elev. 215 ft.

Hogan Pet. Co. 1-A Machado, 7-2s-14w, drilling oil sand and shale 7,398 ft., top Miocene 5,490 ft., elev. 106 ft.

Oscar Howard 1 Valenzuela, 7-2s-14w, drilling 7,693 ft. in sand and shale, elev. 135 ft.

Jergins Oil Co. 2 Howard, 7-2s-14w, location graded.

Royalty Service Corp. 1 Marlow, 8-2s-14w, drilling in sand 7,141 ft., elev. 381 ft.

Texas 7 Smith, 7-2s-14w, drilling 7,990 ft. in oil sand and shale, top Nodular shale 7,237 ft., top second Nodular 7,715 ft., elev. 200 ft.

Traders Oil Co. 1 Bush, 8-2s-14w, grading location and hauling in rig material.

Rosecrans, Los Angeles County: R. S. Lytle 1 Anderson, 1-3s-14w, drilling 7,198 ft. in sand and shale, elev. 232 ft.

LOS ANGELES BASIN WILDCATS

Centinella district, Los Angeles County: Cliff Baker 1 L.A.I., 29-2s-14w, suspended at 6,560 ft. in sand and shale, elev. 102 ft.

Chino district, San Bernardino County: Prado Pet. Corp. 1 Lamp, 31-2s-7w, drilling 708 ft. in surface sand, elev. 560 ft.

Coyote West district, Orange County: Wilshire-Annex 1 Comm., 14-3s-11w, drilling 7,499 ft. in sand and shale, being drilled by Rocky Mountain Drilling Co.

East Santa Fe Springs district, Los Angeles County: Sierra Pet. Co. 1 Cole, 2-3s-11w, rig.

Manhattan Beach district, Los Angeles County: Dominguez Ext. Oil Co. 1 Sunset, 19-3s-14w, rig erected over old well of Sunset Oil Co. abandoned at 7,865 ft., ran into old hole, P.B. to 4,040 ft. to whipstock southwest, elev. 135 ft.

Palos Verdes district, Los Angeles County: Newton Dev. Co. 1 P.V., 13-5s-15w, drilling 1,615 ft. in sand and shale with cable tools.

Puente district, Orange County: Sunset Oil Co. 1 Baldwin, 11-2s-11w, rig erected.

Whittier district, Los Angeles County: Continental Oil Co. 1 Turnbull, 13-2s-11w, hauling in material.

Wilmington district, Los Angeles County: J. F. Wilcox 1 North, 20-4s-13w, rigging up rotary drilling equipment and preparing to spud.

AVERAGE DAILY PRODUCTION

	June 28	June 21
Wilmington	81,425	83,535
Long Beach	41,125	41,695
Midway-Sunset	38,925	41,550
Kettleman North Dome	37,995	38,125
Ventura Avenue	37,550	35,425
Coalinga	35,350	38,275
Huntington Beach	29,450	28,950
Dominguez	27,925	26,725
Santa Fe Springs	23,500	23,425
Santa Maria Valley	16,900	19,375

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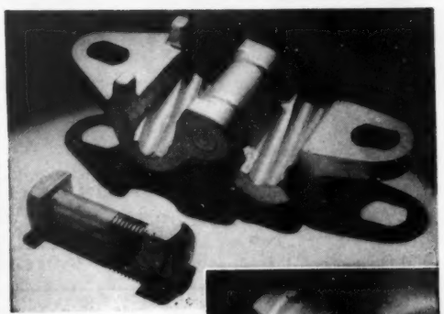

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Nueces County Fields Are Extended; New Pool Shows

By F. L. SINGLETON

CORPUS CHRISTI, Tex., June 30.—Extensions to proven fields, a new sand discovery in Refugio County, and a probable new pool opener in McMullen County were the highlights of development in the Southwest Texas district the past week.

A mile east extension to the Agua Dulce field, Nueces County, was recorded with the completion of S. E. W. Corp. 1-B Pfluger which flowed 187 bbl. of 41-gravity oil daily through a ¼-in. choke. Tubing pressure was 1,200 lb., and casing pressure 1,450 lb. Production is reported to be from 20 ft. of sand and shale bottomed at 7,200 ft. Location is in Section 186 of the Paso Ancho de Abajo grant, east of the company's 1 Pfluger, completed earlier in the year as a gas-distillate producer at 6,900 ft.

On the northeast flank of the structure, Osborn and Mid-Continent 1 Burrow recovered gas-distillate when tested through perforated casing at 6,712-14 ft., and

SUMMARY OF COMPLETIONS

Lower Gulf Coast District

	No.	Bbl.	Footage
Oil wells: Fields	6	694	28,373
Gas wells: Fields	1	.....	5,356
Dry holes: Fields	2	.....	12,702
Wildcats	4	.....	26,043
Total	13	.....	72,474

Southwest Texas District

	No.	Bbl.	Footage
Oil wells: Fields	6	1,010	21,071
Gas wells: Fields	1	.....	4,502
Dry holes: Fields	3	.....	9,652
Wildcats	2	.....	3,851
Total	12	.....	39,076

South Central Texas

	No.	Bbl.	Footage
Oil wells: Fields	4	470	9,082
Dry holes: Fields	1	.....	2,040
Wildcats	1	.....	4,527
Total	6	.....	15,649

late in the week another test was being made. Total depth is 7,513 ft., and an electrical log is reported to have logged several possible sands. This area is located several hundred feet northeast of production, and the company is attempting to find oil production from downstructure sands such as exist on the south and southeast flanks.

Although no gage was available, Seaboard 9 Chapman, 9,000 ft. west of the Chapman Ranch field, Nueces County, was reported to be showing for a producer while testing through perforated casing at 4,270-74 ft. Total depth is 4,550 ft., and 7-in. casing was cemented at 4,300 ft. after a drill-stem test in the Catahoula formation recovered pipe-line oil.

Locations for two interesting wildcats were announced for the county. Forest Development Corp. is moving in material for 1 J. F. Koemel, 2 miles north of Robstown. The well is located in the Nueces River Park subdivision of the M. Lopez de Herrera grant. Southeast of the town of Bishop, Premont Petroleum Co. staked location for 1 Ross, a projected 7,000-ft. test located in Section 119, F. Z. Bishop subdivision of the Driscoll ranch.

REFUGIO COUNTY.—W. F. Morgan 1 Boenig, a north offset to Southern Minerals 1 Boenig, recently completed for a 3,000-ft. extension producer for the Woodsboro field, Refugio County, is flowing gas-distillate from a new and deeper sand section. Total depth is 7,200 ft., and the well is flowing from perforated casing at 6,597-6,600 ft. A drill-stem test in the regular 5,800-ft. pay tested a small amount of gas and distillate.

F. M. Boykin 1 Serievner, 1 mile west of the Midway field, flowed 48 bbl. of 48-gravity oil per day through a 9/64-in. choke from perforated casing at 6,070-80 ft. This is the second producer for this sand recently opened on the north edge of the field proper by British American Oil Co.

SAN PATRICIO COUNTY.—In the Odem field, San Patricio County, and located 1 mile southwest of production, Wellington Oil Co. 1-C J. F. Welder, reperforated casing at 5,430-34 ft., and the well is flowing at the rate of 6 bbl. of 36-gravity oil per hour through ⅛-in. choke. Tubing pressure was 625 lb. and casing pressure 1,075 lb.

McMULLEN COUNTY.—A new shallow producing area for the Laredo district was believed to have been opened as Argo Oil Corp. 1 Edrington, 2½ miles southwest of the Campana field, McMullen County, showed for a producer on a drill-stem test. Sand showing oil was cored in the Pettus sand at 3,011-21 ft., and on a 20-minute drill-stem test at 3,012-21 ft., 1,200 ft. of oil was recovered and working pressure built up to 23 lb. Drill-stem testing in the Cole sand at intervals from 1,843-80 ft., tested dry gas. Casing is being cemented for completion.

LIVE OAK COUNTY.—Promise of Wilcox sand production being opened in Live Oak County was indicated as testing was under way at Edwin M. Jones 3-B George West, 4½ miles southwest of the town of George West in the Nelson Owen Survey 56. On a 2½-hour drill-stem test through perforated casing at 9,690-9,720 ft., the well flowed a good spray of 45-gravity oil through a 5/32-in. choke, and then started to flow salt water. The perforations have been squeezed off and another test was being made at the end of the week. Total depth is 9,733 ft., and 5½-in. casing was cemented to test several promising sand sections logged in the Sparta-Wilcox formation by an electrical log.

As testing was under way in the above well, another projected Wilcox test, located in the southeastern part of the county was attracting attention. The well is Fidelity Oil & Royalty Co. 1 Brown, 5½ miles northeast of Lagarto in the P. Nevin Survey. While drilling sand at 6,170-6,200 ft., the well attempted to blow out, but it was brought under control, and at the end of the week the crew was trying to recover 60 ft. of stuck drill stem.

BALCONES FAULT LINE.—In the Balcones faultline district, and located in the Carrizo field, Dimmit County, Producers Corp. 2 S. E. McKnight, an offset to the discovery well, looms as a small pumping well, as it is swabbing at the rate of 3 bbl. of oil per day from perforated casing at 2,283-91 ft.

SOUTHWEST TEXAS COMPLETIONS
LOWER GULF COAST

Wildcats

Jim Wells County: Magnolia 1 Seeligson Unit 3, dry, T.D. 6,500 ft.
Nueces County: Brown & Wheeler 1 Z. A. Booth, dry, T.D. 7,010 ft.
San Patricio County: F. A. Gillispie 1 M. K. Hunt, dry, T.D. 6,510 ft.
Victoria County: John Mayo et al 1 H. R. Smith, dry, T.D. 6,023 ft.

Fields

Agua Dulce, Nueces County: R. H. Hawn 1-C Wofford, dry, T.D. 7,100 ft.
Clara Driscoll, Nueces County: R. B. Bryant 5 Galban, 90 bbl., ⅛-in. choke, perf. casing 5,592-97 ft., T.D. 6,076 ft.
Minnie Bock, Nueces County: Graham Oil Co. 1 Dugger, 300 bbl. fluid, 85 per cent salt water, gas lift, perf. casing 3,821-25 ft., T.D. 3,830 ft.
Phillips 4 Gandy, 77 bbl., 5/32-in. choke, perf. casing 3,816-20 ft., T.D. 3,885 ft.
Windsor 8 Howze, 60 bbl., 7/64-in. choke, perf. casing 3,815-18 ft., T.D. 3,822 ft.
Robstown, Nueces County: H. H. Howell 1 L. D. Wright, dry, T.D. 5,602 ft.
Midway, San Patricio County: Gibson 2 Floerke, 92 bbl., ⅛-in. choke, perf. casing 5,328-32 ft., T.D. 5,360 ft.
Phillips 6 Ivey, 75 bbl., ¼-in. choke, perf. casing 5,308-14 ft., perf. casing 5,308-14 ft., T.D. 5,400 ft.

(Continued on Page 74)

Illinois Fields

(Continued from Page 69)

Clinton County: Wiser Oil 1 Gullick, SE SE NE 28-2n-1w, first report, rig.
Hughes 2 Holman, NE SW SE 10-2n-1w, S.D. 1,400 ft.
J. R. Kerwin et al 1 M. Glaser, E½ SW SE SW 2-1n-3w, drilling 975 ft.
Du Page County: I. C. R. Syndicate 1 Bartlett Village, SE NW NW 2-40n-9e, drilling 1,010 ft.
Edgar County: Monarch Oil 1 Pinnell, SE SE SW 14-12n-14w, T.D. 407 ft., slight show oil, testing.
Zink et al 1 Hunt, NE NE NE 14-12n-14w, T.D. 340 ft., show oil and gas 335-40 ft., testing.
Edwards County: Longhorn 1 Broster, SE SE SE 9-3s-14w, first report, old well drilling deeper, old T.D. 1,867 ft., cleaning out.
Smokey Oil 1 A. B. Chalcraft, W½ NE NW 19-2s-10e, set 10-in. 70 ft., drilling 2,400 ft.
National Pet. 1 Crackle heirs, NW NW SW 5-2s-14w, T.D. 3,150 ft., P.B. 2,878 ft., Benoist 2,854-66 ft., 7-in. 2,848 ft., drilling plug.
Fayette County: J. T. Elmore 1 Keith, SE NE NW 18-6n-1w, S.D. 720 ft.
H. R. Spires 1 Braasch, NE NE SW 1-5n-2e, show oil 1,608-11 ft., S.D. 1,648 ft.
Franklin County: Nation Oil 1 Beaty, NE SE NW 23-6s-2e, T.D. 2,144 ft., Tar Springs 2,130 ft., 14-qt. shot 2,129-35 ft., swedging casing.
J. A. Burhan et al (was Yingling & Hayes) 1 Pearce, W½ SE SW 35-4s-3e, rigging up rotary.
Gallatin County: Vanderbark 1 Browning, NW NW SE 10-8s-10e, drilling 1,355 ft.
Ryan et al 1 Crunk, N½ NE NW SE 9-8s-9e, fishing 2,880 ft.
Blackstock 1 Cox, NE NW SW 2-8s-9e, T.D. 3,020 ft., swabbed 176 bbl., 40 per cent water, testing.
Hamilton County: Mid-Sun Oil (was J. A. Barbee) 1 M. Hall, SE NW SW 19-4s-5e, Menard 2,457 ft., Glen Dean 2,658 ft., drilling 2,803 ft.
Ohio 1 First Nat. Bank of Enfield, SE SE NW 3-5s-7e, set 10-in. 157 ft., fishing 2,171 ft.
Texas 1 C. Johnson, W½ NE NE 34-6s-6e, set 10-in. 34 ft., drilling 663 ft.
J. Chevigny 1 H. H. Phillips, SW NW SW 26-6s-6e, T.D. 3,190 ft., P.B. 3,145 ft., perf. 3,074-82 ft., 3,050-60 ft., swabbed 75 bbl. in 17 hr., 50 per cent water, testing.
Henry County: O. Behrens 1 Patton, SE SE SW 1-17n-3e, drilling 915 ft.
Jasper County: A. B. Johnson 1 Burk, W½ SW SE 15-5n-9e, location, first report.
C. L. Erbin 1 H. Garner, SW NW SE 16-6n-8e, set 12-in. 220 ft., drilling 750 ft.
Lawrence County: A. A. A. O. & G. 1 Pinkstaff, W½ E½ NE SW 12-4n-11w, first report, old well drilling deeper, old T.D. 1,116 ft., drilling 1,590 ft.
McDonough County: C. H. Harrison et al 1 G. Bowman, SW SW NW 19-4n-4w, T.D. 890 ft., P.B. 740 ft., to shoot.
Madison County: F. C. Kiskadden 1 G. A. Fischer, S½ SE SW NE 27-5n-8w, Devonian 1,335 ft., 5-in. 1,276 ft., drilling 1,351 ft.
Marion County: Swan-King 1 Hotva heirs, S½ SW NW 36-4n-2e, first report, 10-in. 53 ft., Benoist 1,931 ft., 45-min. D.S. test 1,933-40 ft., recovered 54 ft. oil and 30 ft. oily mud, cored 1,940-50 ft., recovered 6 ft. saturated sand, reaming.
Austin Oil 1 Smith, SE SE SW 12-3n-2e, drilling 2,510 ft.
Texas 1 McClelland, S½ SW NE 18-2n-2e, set 10-in. 160 ft., drilling 248 ft.
Montgomery County: H. C. Detrick 1 W. H. Barnes, NW NE SE 20-10n-2w, Devonian 2,457 ft., drilling 2,508 ft.
St. Clair County: Burgess 1 Eidman, NW SW SE 18-1s-6w, fishing 358 ft.
Magnolia 1 M. Probst, SE SE SE 2-2s-9w, drilling 913 ft.
Saline County: Carter & Vaughn 1 H. Roberts, SE SW NE 6-8s-7e, drilling 1,375 ft.
Shelby County: Rose & Durbin 1 Flenner, SW SW SE 9-10n-4e, T.D. 2,050 ft., underreaming 7-in. at 1,755 ft.
Oil Inc. 1 Barkhurst, SW SW NE 7-10n-3e, Tar Springs 1,695 ft., cored 1,695-1,701 ft., recovered 6 ft. saturated sand, 1-hr. D.S. test 1,694-1,701 ft., recovered 5 ft. oil and 150 ft. mud, T.D. 1,701 ft., 5-in. 1,694 ft., waiting on cement.
Wayne County: Wiser 1 Hillard, S½ SE SW 27-1n-6e, Kincaid 1,985 ft., Menard 2,270 ft., Glean Dean 2,475 ft., Golconda 2,560 ft., Cvoress 2,657 ft., Paint Creek 2,782 ft., Benoist 2,811 ft., show oil, drilling 2,906 ft.
Wabash County: Joe Young 1-A Price, E½ NW NE SW 14-1n-12w, first report, rigged up standard tools and S.D.
White & Wickwire 2 Price, N½ NW NE NW 14-1n-12w, first report, 10-in. 165 ft., waiting on cement.
Kneipp & Baulingman 1 Price, N½ NE NE NW 14-1n-12w, rigged up standard tools and S.D., first report.
Joe Young 1-A D. H. Price, NW NW NW 1-1n-12w, first report, 10-in. 115 ft., drilling 1,155 ft.
White County: First Nat. Pet. Trust 1 Johnson, NE SE NW 5-5s-14w, Vienna 2,236 ft., Tar Springs sand 2,241 ft., Glen Dean 2,341 ft., Hardinsburg 2,379 ft., Golconda 2,425 ft., Barlow 2,566 ft., Cypress sand 2,608 ft., Paint Creek 2,675 ft., Renault 2,798 ft., Aux Vases 2,855 ft., Ste. Genevieve 2,881 ft., McCloskv 2,928 ft., drilling 2,975 ft.
Arrow Drlg. 1 Lamas, SW NW SW 14-4s-14w, Menard 2,124 ft., Waltersburg sand 2,150 ft., Tar Springs sand 2,212 ft., Glen Dean 2,362 ft., Golconda 2,435 ft., Barlow 2,543 ft., Cvpress 2,550 ft., Cvpress sand 2,660 ft., Benoist 2,765 ft., drilling 2,790 ft.
Shaffer-Stole 1 Aud, SE NE SE 27-6s-9e, West Franklin 448 ft., lower Kincaid 1,930 ft., Palestine 2,093 ft., Menard 2,162 ft., Tar Springs 2,315 ft., Glen Dean 2,435 ft., drilling 2,450 ft.
B. Martin 1 Williams, S½ SW SW 19-5s-9e, first report, 10-in. 72 ft., West Franklin 555 ft., Kincaid 2,000 ft., drilling 2,025 ft.
Ryan Oil et al 1 Lamont, NE SW SW 33-3s-10e, Cypress sand 2,891-2,902 ft., Benoist sand 2,984-3,016 ft., Renault 3,105 ft., Aux Vases sand 3,160-74 ft., Ste. Genevieve 3,184 ft., drilled alloy casing, filled up 2,300 ft., salt water, T.D. 3,211 ft., squeezed, waiting on cement.
Roche-Bovles et al 1 C. Groff, E¼ SE SW 25-3s-10e, T.D. 3,203 ft., Ste. Genevieve 3,078 ft., McCloskv 3,133 ft., 5-in. 3,025 ft., drilled plug, filled up 1,800 ft. oily mud in 30 min., then filled up 2,285 ft. salt water, P.B. 3,069 ft., waiting on cement.
Joe Dawson 1 Rodenberg, NE SE NE 11-6s-10e, coring at 2,744 ft.

Roscommon County Test May Open Important New Pool

By OTTO C. PRESSPRICH

SAGINAW, Mich., June 30.—A wildcat well, flowing out of control at a rate of better than 2,000 bbl. a day in Roscommon County, near the Clare County line, shifted interests of Michigan's oil industry back to the basin area this week.

Fifteen miles and more from nearest production—at West Branch and in the old Buckeye field—oil men saw in the wildcat the possibility of a second major oil field within a month, after a period of more than 2 years of steadily declining Michigan production.

Projected originally as a Monroe test, the new wildcat, the Eugene Hilliard 1-A State, S½ SE SE 24-21n-3w, in Roscommon Township, struck oil at 3,434-38 ft., in Traverse limestone, about 100 ft. below top of the formation. The hole began to fill with oil at 11 a.m. Thursday, June 26, and soon overflowed. The well was capped during the night, but pressure quickly blew the escape valve gasket. Friday it still was out of control and state police and fire wardens blocked roads in a 3-mile radius as the oil soaked timber in the state forest in which the wildcat is located.

F. R. Frye, state petroleum engineer, said staff employes were on the scene to assist with control measures and precautions against fire or explosion. The dry spring and recent 90° weather made the fire hazard acute.

While observing that "obviously it takes more than one well to make a field," Frye said, "This could mean a new field. It is in wildcat territory and I know of only one other comparable producer drilled in the Traverse formation, That is near West Branch."

Geologists were hopeful of the prospects, but pointed out that Michigan basin experience has been that Traverse production is spotty. The Hilliard test, intended for the Monroe formation, at around 3,900 ft. in that area, is on an 80-acre lease farmed by Gulf Refining Co. It is in an area largely state-owned and on land which the state has leased extensively in recent months for possible oil development. Most of the major companies and several of the more active independent operators have leases in the county with Pure Oil Co. directly interested because of leases in the immediate vicinity.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Allegan County	2	51	3,157
Bay County	1	50	1,522
Ottawa County	1	20	1,794
Gas wells: Missaukee County	1	*8.46	1,505
Osceola County	1	*14.75	1,198
Dry holes: Allegan County	3	.....	5,229
Calhoun County	1	.....	1,832
Clare County	2	.....	7,768
Huron County	1	.....	2,905
Isabella County	1	.....	3,656
Mecosta County	1	.....	1,418
Osceola County	1	.....	1,660
Ottawa County	1	.....	1,717
Total	17	.....	35,356

*Million cu. ft.

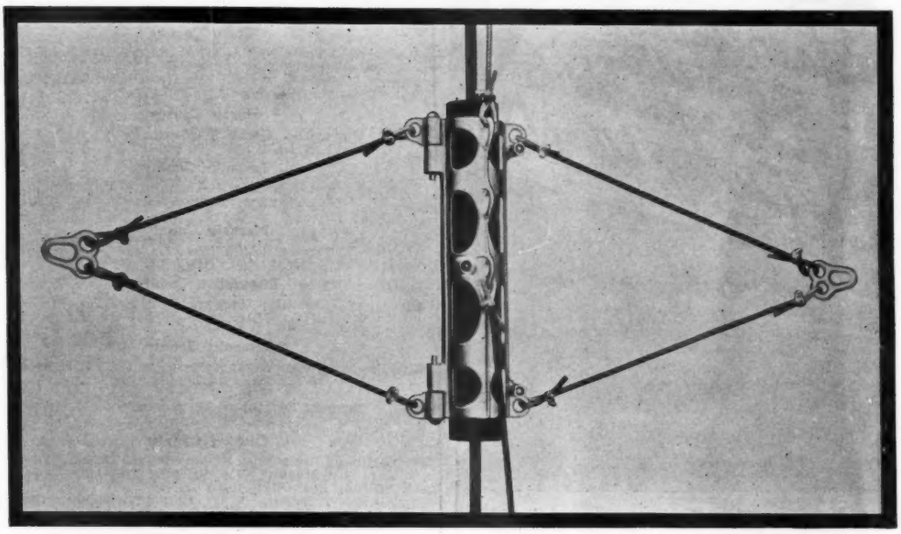
Reed City Wells Maintain Flow

Meanwhile there was sustained enthusiasm over the prospects of the new Reed City pool in Osceola County as the three wells now producing maintained their constant flow. Indications were that two weeks will elapse before another test is completed, the most advanced drilling now being Weber Oil Co. 1 Clark, a half mile north of the producing wells, two of them Weber's, which were deepened to big production, after Pure 1 Gingrich paved the way. The Clark was drilling below 3,300 ft. with about 300 ft. to go. At least 10 other tests are in various stages and some oil sources predicted that one or two more successful completions will be the forerunner of at least 100 drilling operations in the area this year.

Refinery interests are arranging to keep abreast of development. Pure Transportation Co. is completing a 6-in. line to Reed City railroad siding. Simrall Pipeline Co. has a line in service and Leonard Refinery has a line leading to a nearby loading point at Olivers. Simrall is considering construction of a 35-mile line to Temple to tie in with existing lines to Mount Pleasant.

MIDDLE BRANCH TOWNSHIP.—In Osceola's Middle Branch Township, Chapman Oil Co. completed 1 Leavey wildcat as a dry hole at 1,660 ft., concluding Marshall formations were too low to justify further drilling. Close watch was kept on another Osceola wildcat, Turner Petroleum 1 Pritchard in Section 7 of Sylvan Township. Traverse lime was logged at 3,334 ft. and it was expected Dundee would be reached within a week. Heavy flow of gas was encountered in the stray sand at about 1,550 ft.

CHIPPEWA-DENVER.—Prospects of more development in Isabella's Chippewa-Denver district hinged on results from Michigan Devonian Petroleum Co. 1 Dimon in Section 34, Denver Township. The well was reported to have made several flows, one of 70 bbl. in 24 hours, and was being prepared for acid. The well is near Chippewa production where one well has been



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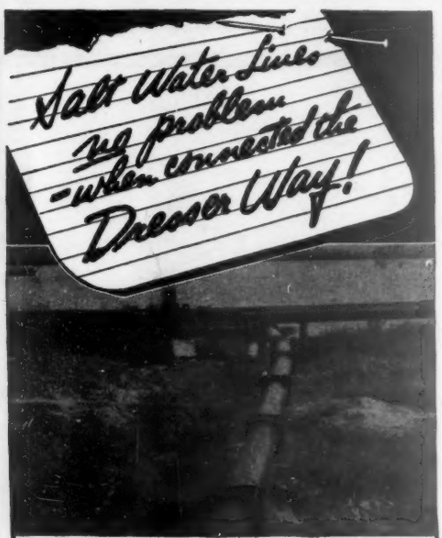
flowing from the Traverse for more than 4 years.

ARENAC.—Don Rayburn, active in Arenac County development, was reported considering deepening of 1 Fox, in Section 21, Adams Township. Now at 4,300 ft., it may be drilled into the Sylvania sand. Under test several weeks in the Monroe formation, it declined rapidly after initial output of about 40 bbl. a day.

The Michigan completion record for last week showed 2 locations abandoned, 4 small producing wells, 2 gas wells and 11 dry holes, a majority of a wildcat nature. One of the gas wells, both drilled by Taggart Brothers Co., rated 14,750,000 cu. ft. a day, the other 8,460,000. The larger one is in the Lincoln-Osceola section, the others in Missaukee's Riverside Township.

MONITOR.—In Bay County, Chapman Oil Co. 2-B Schultz, Monitor Township, another of the shallower Berea wells, was reported producing 50 bbl. a day after nitro treatment. Gulf Refining Co. Bateson deep test again was slowed up by gas leaks, but early resumption of drilling is expected. Depth now is 8,274 ft.

The state Oil Advisory Board was to conduct a public hearing July 1 in Lansing to make permanent the temporary restrictions on drilling and production in the new Reed City field. These provide for 20-acre drilling units and maximum take of 480 bbl. per day per well.



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MICHIGAN COMPLETIONS

Allegan County

Leighton Township: Grimes & Sons 1 Schad, SW SE SW 16-4n-11w, wildcat, dry in Traverse, T.D. 2,009 ft.

Overisel Township: Jacob Bolema 1 Gerrit Eding, NW NW NE 35-4n-14w, dry in Traverse, T.D. 1,616 ft.

Salem Township: Socony-Vacuum Oil Co. 2 Thomas, SE SW SE 11-4n-13w, dry, T.D. 1,604 ft.

George Kermodle 3 Ledger, NE NW NW 14-4n-13w, 36 bbl. acid, T.D. 1,596 ft., Traverse.

Universal Gas & Oil Corp. 3 Smith, NE NE NW 15-4n-13w, pumping 14 bbl., Traverse, T.D. 1,588 ft.

Trowbridge Township: Claude Huff 1 Theiner, SW SE NE 21-1n-13w, location abandoned.

Bay County

Monitor Township: Chapman Oil Co. 2-B Schultz, NE NE NE 3-14n-4e, nitro shot, 50 bbl., Berea, T.D. 1,522 ft.

Calhoun County

Convis Township: V. R. D. Kirkham 1 Dowding, NE NE SW 13-1s-6w, wildcat, dry in Traverse, T.D. 1,832 ft.

Clare County

Winterfield Township: Sun 1-B State-Winterfield, C N½ SW SW 36-20n-6w, dry, T.D. 3,788 ft.

Surrey Township: Gulf 1 Woodward wildcat, NE NW SE 24-17n-5w, dry, T.D. 3,980 ft.

Huron County

Grant Township: Great Western Petroleum Corp. 1 Hartsell, NE SW SW 23-15n-11e, dry, T.D. 2,905 ft.

Isabella County

Fremont Township: Socony-Vacuum 1 Bandeen, C E½ SE NW 22-13n-5w, wildcat, dry in Monroe, T.D. 3,656 ft.

Mecosta County

Martiny Township: W. E. Ross 1 Oliver, C S½ SW 14-15n-8w, wildcat, dry, T.D. 1,418 ft.

Missaukee County

Riverside Township: Taggart Brothers Co. 21 Remin et al, C NW 16-21n-7w, 8,460,000 cu. ft. gas, T.D. 1,505 ft.

Osceola County

Lincoln Township: Taggart Brothers Co. 15 Riggs et al, C E½ 19-18n-10w, 14,750,000 cu. ft. gas, T.D. 1,197½ ft.

Middle Branch Township: Chapman Oil Co. 1 Seavey wildcat, C N½ SE NE 4-19n-7w, dry, T.D. 1,660 ft.

Ottawa County

Georgetown Township: Fisher-McCall Oil & Gas Co., Inc., 4-B Mackus, NW SE NW 2-6n-13w, pumping 20 bbl., acid, T.D. 1,794 ft.

Jamestown Township: M. C. Oldt 1 Busscher, SW NE SW 28-5n-13w, wildcat, dry, T.D. 1,717 ft.

Van Buren County

Bloomingdale Township: Clapsaddle & Harris 1 Christofferson, NW SW NE 16-1s-14w, location abandoned.

Southwest Texas Fields

(Continued from Page 72)

Gibson 9 Floerke, gas well, perf. casing 5,298-5,304 ft.

LAREDO DISTRICT

Wildcats

Starr County: E. Fitch 1 Bass, dry, T.D. 1,435 ft.

Webb County: W. C. McBride 1 Benavides, dry, T.D. 2,416 ft.

Fields

Casa Blanca, Duval County: Texas 44 Duval County Ranch Co., 46 bbl., pumping, sand 1,035-48 ft.

Colorado, Jim Hogg County: C. Andrade 4-B Trevino, 150 bbl., ⅞-in. choke, sand 2,975-83½ ft.

Humble 20-B King, 169 bbl., ⅞-in. choke, T.D. 2,971 ft.

Holbien, Jim Hogg County: Guy A. Davis 1-D Marrs McLean, dry, T.D. 2,729 ft.

Kelsey, Brooks County: Magnolia 8 State-Marshall, 312 bbl., ¼-in. choke, perf. casing 4,724-28 ft., T.D. 4,744 ft.

Rincon, Starr County: Continental 26-A Slick, 242 bbl., ⅞-in. choke, perf. casing 3,750-64 ft., T.D. 4,190 ft.

Continental 100-A Slick, dry, T.D. 4,413 ft.

Continental 45-B Slick, gas well, perf. casing 4,126-50 ft., T.D. 4,502 ft.

Seven Sisters, Duval County: J. H. Reynolds 1-C Drummond, dry, T.D. 2,510 ft.

Sun, Starr County: Sun 11 McKinney, 91 bbl., ⅛-in. choke, perf. casing 4,851-55 ft., T.D. 5,135 ft.

SOUTH CENTRAL TEXAS

Wildcats

Gonzales County: Austin Brown 1 Voight, dry, T.D. 4,527 ft.

Fields

Alta Vista, Bexar County: Kurt Petzold 1 Kelso, 4 bbl. oil plus 90 per cent salt water, T.D. 1,060 ft.

Tenney Creek, Caldwell County: Ogden & Riddle 1 Perry, dry, T.D. 2,040 ft.

Wiegand Brothers 1 Ellison, 388 bbl., ¼-in. choke, top chalk 2,469 ft., base 2,640 ft., T.D. 2,645 ft.

Wiegand Brothers 2 Rhodes, 38 bbl., ⅛-in. choke, T.D. 2,661 ft.

Wiegand Brothers 3 Rhodes, 40 bbl., ⅛-in. choke, top chalk 2,482 ft., base 2,708 ft., T.D. 2,716 ft.

SOUTHWEST TEXAS DRILLING REPORT

Bee County: Hewitt & Dougherty 1 L. E. Weiss, cored sand, slight gas odor 9,674-84 ft., coring sand 9,684 ft.

Brooks County: Sun 1 Cage, 9⅛ mi. SW of Falfurrias, A.C.H.&B. Sur. 141, drilling shale 1,130 ft.

Hidalgo County: W. R. Davis Co., Inc., 1 Arizona-Texas Citrus Co., Por. 68, McAllen area, drilling sandy shale 7,800 ft.

Jim Hogg County: Plymouth 1 O. F. Sweeney, Las Animas grant, coring shale 5,406 ft.

Jim Wells County: W. B. Osborn and Superior Oil Co. 1 W. F. Almond, S.A.&M.G. Sur., Sec. 12, moving in for 5,200-ft. test.

Wilcox Oil & Gas Co. 1 Robert Adams, William Parks Sur., Sec. 29, 2 mi. W of Alford, location.

La Salle County: Trinity Petroleum Co. 1 Storey & Kinley, 7 mi. SE of Los Angeles, H.&G.N. Sur. 141, drilling shale 2,920 ft.

Quintana Petroleum Co. 3 Washburn, Washburn field, drilling in shale below 10,000 ft.

Live Oak County: Continental 1 George West, 2 mi. E of Kitty, T.D. 7,421 ft., fishing.

Nueces County: Humble 1-K State, East Flour Bluff field, cored firm sand, good oil odor 8,556-72 ft., drilling sandy shale 8,639 ft.

Webb County: Magnolia 1-A Hamilton ranch, 15 mi. NW of Callaghan, Joaquin Galan grant, drilling shale 8,985 ft.

Louisiana Gulf Coast

(Continued from Page 64)

St. Gabriel, Iverbille Parish: George Echols 3-B Natalbany Lumber Co., 308 bbl., ¼-in. choke, T.D. 7,816 ft.

Shell 2 Gueymard, 176 bbl., 7/64-in. choke, perf. casing 7,770-80 ft., T.D. 7,781 ft.

Venice, Plaquemines Parish: Tide Water 10 Buras Levee district, 139 bbl., 11/64 and 5/32-in. choke, T.D. 10,758 ft.

Tide Water 15 Manhattan Land & Fruit Co., 288 bbl., ¼-in. choke, perf. casing 8,126-74 ft., T.D. 8,962 ft.

Ville Platte, Evangeline Parish: Continental 3 Pitre, dry, T.D. 9,100 ft.

Continental 9 W. L. Tate, 181 bbl., ⅞-in. choke, perf. casing 10,000-10,035 ft., T.D. 10,280 ft.

Welsh, Jefferson Davis Parish: Union Sulphur 2 Bourgeois, dry, T.D. 7,022 ft.

West Cote Blanche, St. Mary Parish: Texas 8 State, 391 bbl., ¼-in. choke, perf. casing 7,806-28 ft., T.D. 8,315 ft.

LOUISIANA GULF COAST DRILLING REPORT

Allen Parish: Frank Campbell 1 Bowles, 14-3s-6w, derrick.

Avoyelles Parish: Cockburn Oil Corp. 1 G. W. Snowden, 22-3n-5e, T.D. 7,210 ft., perf. casing 6,693-97 ft., tested 8½ lb. pressure, recovered salt water with slight show of oil, squeezed perf., W.O.C.

Joe Humphrey 1 Pearl Freeze, 6-3n-3e, location, 6,200-ft. test.

Beauregard Parish: Humble 1-B Edgewood Land & Logging Co., 25-6s-10w, drilling shale and sand 10,079 ft.

Calcasieu Parish: Gulf 1 Calcasieu National Bank, 18-11s-5w, Hayes area, T.D. 10,534 ft., milled out casing to 7,927 ft., well attempted to blow out.

Pan American 1 Louisiana Farms & Livestock Co., 8-11s-9e, drilling shale 6,250 ft.

Cameron Parish: Superior 1 Calcasieu National Bank, Lakeside field, T.D. 10,422 ft., P.B. to 3,200 ft. to sidetrack.

George Echols 1 Louisiana Land Co., 16-15s-14w, prepare to spud.

St. Martin Parish: Texas 17 St. Martin Land Co., 21-8s-7e, Plumb Bob field, drilling shale 8,386 ft.

Superior Oil Co. of California 2 E. C. Stuart, north flank Sec. 28 dome, T.D. 11,302 ft., P.B. 10,860 ft., perforating casing to test.

Texas Gulf Coast

(Continued from Page 59)

Magnolia 159-A West, 54 bbl., 9/64-in. choke, perf. casing 5,119-25 ft., T.D. 5,126 ft.

Magnolia 165-A West Ranch, 120 bbl., ⅞-in. choke, perf. casing 5,560-66 ft., T.D. 5,574 ft.

TEXAS GULF COAST DRILLING REPORT

Brazoria County: Glenn McCarthy 1 J. R. Marion, Bailey Prairie area, drilling sandy lime 11,065 ft.

Chambers County: H. E. Williams et al 1 Trinity Rice Disposal Co., T.&N.O. Sur., top large Discorbis 6,616 ft., Heterostegina 6,767-97 ft., drilling shale 6,827 ft.

Fort Bend County: H. C. Cockburn 1 W. C. Leveridge, top Heterostegina 2,810 ft., Frio 3,950 ft., drilling shale 5,830 ft.

Providence 1 J. J. Settegast, Joel McCrary Sur., Sec. 6, rigging up.

Jackson County: Humble 1 J. M. Bennett, V. Garcia Sur., drilling shale 5,110 ft.

Jefferson County: Magnolia 2 W. C. Baird, B. F. Howard Sur., drilling shale 7,583 ft.

A. T. McDannald 1 Hebert Trust, P. H. Bell Sur., drilling shale 7,820 ft.

Lavaca County: Herton Oil Co. 1 L. Holmann, William Taylor Sur., T.D. 4,450 ft., D.S. stuck.

Liberty County: George Echols et al 1 E. B. Pickett, W. S. Craig Sur., location.

Winston P. Henry et al 1 E. J. Stoesser, H.&T.C. Sur., Sec. 115, drilling shale and lime 4,486 ft.

Rowan Drilling Co. et al 1 B. H. Willis, H.T.&B. Sur., drilling shale 1,210 ft.

Sun 1 Grayburg Timer Co., E. Tanner Sur., S.D. 1,630 ft., high water.

Matagorda County: Stanolind 1 Doman, H. Harrison Sur., drilling shale and lime 8,764 ft.

Stanolind 1 Wolf, Bowman & Reese Sur., drilling shale 3,861 ft.

Orange County: William Dickey et al 1 George Locke, T. H. Bruce Sur., drilling shale 2,060 ft.

Polk County: Jordan Drilling Co. 1 Kirby Lumber Co., I.&G.N. Sur., Sec. 25, cored sandy gas odor and salty taste 7,166-71 ft., drilling shale 7,386 ft.

Wharton County: Barnsdall 1 Wallace Hancock, L. L. Miller Sur., spudded.

Sinclair Prairie 1 H. R. Carlson, E.T.R.R. Sur. 65, drilling shale 6,520 ft.

Wildcatting Slowing Up in Eastern Gulf Area

By GEORGE WEBER

JACKSON, Miss., June 30.—Wildcat activity in Mississippi lagged last week, with only two tests making hole, and six other operations either shut down, fishing or making electrical surveys. One of the active tests, Danciger Oil & Refining Co. 1 Stone County, in 16-2s-11w, is reported drilling below 5,700 ft. and approaching critical depth. In Kemper County, D. C. Williams et al are drilling below 1,340 ft. in 1 McKelvain, 2-9n-17e.

Reports of new wildcat tests continue. In addition to a new Madison County operation, Sinclair-Wyoming 1 Charles L. Harris, 26-10n-5e, other operations are planned in Yazoo, Neshoba, Adams, and Lawrence counties. It is reported that H. I. Morgan et al plan a third deep wildcat in Stone County near 2 Dantzler Lumber Co., which had an oil show not considered important enough to test commercially. In Alabama, G. F. Mercer staked 1 Mrs. Neil C. Patterson, 8-2s-12w. Lauderdale County, and Fayette County is believed due another test on a re-assembled block near Township 15s-12w. The leasing play is extending eastward into Florida, and Georgia is being watched by Texas and Pennsylvania interests who may drill shortly on two prospects.

Tinsley drilling activity continues at record volume, since the abrogation of 40-acre spacing by the state Oil and Gas Board. At present, 19 rigs are active in the field. The drilling activity is reflected in the nine completions last week, eight of which were in the Woodruff sand and one in the Stevens zone. Field production continues relatively unchanged at nearly 28,000 bbl. daily, with reduced takings by the Standard Oil Co. of Louisiana offset by increased runs northward to Illinois, Tennessee, and Kentucky. Added outlet will be provided this week upon completion of the Paluxy Asphalt Co.'s refinery near the field.

In Alabama, Union Producing Co. 1 M. M. Waite, 12,000-ft. wildcat test on the Hatchitigbee anticline, Clarke County, was waiting on cement after setting 10¾-in. casing at 5,265 ft. The Franklin County test, E. O. Heath, Jr., 1 W. O. Hester, is drilling in chert below 875 ft., having penetrated the Bangor lime, Hartselle sand, Gasper lime and the Bethel, Tuscumbia and Fort Payne formations. In Limestone County, Shaw, Johnson & Thompson abandoned 1 E. E. Carter, shallow core test at 520 ft.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Mississippi			
Oil wells: Tinsley	9	6,040	45,496
Alabama			
Dry holes: Wildcats	1	.....	520

MISSISSIPPI COMPLETIONS

Wildcat, Sharkey County: Hapel Avery 1 A. P. Cameron, NW SE NW 33-14n-6w, location abandoned.

Tinsley, Yazoo County: Beckett & Bridewell 2 Maggie Hart, S½ NE NE 36-10-3, 422 bbl., ½-in. choke, T.P. 50 lb., T.D. 5,606 ft., 7-in. casing 5,051 ft., perf. 4,940-64 ft. and 4,976-90 ft., Woodruff zone 4,937-5,005 ft.

W. L. Ethredge 2 George Stutts, SW NW 31-10-2, 768 bbl., ½-in. choke, T.P. 95 lb., C.P. 93 lb., T.D. 5,031 ft., 7-in. casing 5,030 ft., perf. 4,723-64 ft. and 4,792-87 ft., Woodruff sand.

J. P. Evans 6 Dalzell Johnson, SW NE NW 31-10-2, 780 bbl., ½-in. choke, T.D. 5,076 ft., 7-in. casing 5,074 ft., perf. 4,960-98 ft. and 5,006-39 ft., Woodruff zone 4,961-5,040 ft.

S. H. Killingsworth 1 Robertson, NW SE SW 20-10-2, pumped 311 bbl., 3 per cent b.s.&w., T.D. 5,001 ft., 5½-in. casing 5,001 ft., perf. 4,992-98 ft., Woodruff sand.

Midstates Oil Corp. 1 W. F. Cummings heirs, E½ SW 31-10-2, 1,060 bbl., ½-in. choke, T.P. 25 lb., C.P. 55 lb., T.D. 5,033 ft., 7-in. casing 4,954 ft., Woodruff zone 4,966-5,033 ft.

C. L. Reasor 2 Sorrell, NW SE SE 31-10-2, 792 bbl., 28/64-in. choke, T.P. 70 lb., T.D. 5,062 ft., 7-in. casing 5,057 ft., perf. 4,991-5,015 ft., Woodruff zone 4,991-5,062 ft.

Slick-Urschel Oil Co. 19 Slick est., S½ NW SW 36-11-3, 720 bbl., ¼-in. choke, T.P. 40 lb., C.P. 106 lb., T.D. 5,453 ft., 7-in. casing 5,398 ft., Stevens sand 5,404-32 ft.

Union Prod. Co. 5 Nannie Berry, SW SE 25-10-3, pumped 366 bbl., 2 per cent water, T.D. 5,013 ft., 7-in. casing 4,998 ft., perf. 4,935-53 ft., Woodruff zone 4,936-96 ft.

Union Prod. Co. 2 Middleton, NE NW NW 36-10-3, 821 bbl., 32/64-in. choke, T.P. 75 lb., C.P. 115 lb., T.D. 4,767 ft., 7-in. casing 4,760 ft., perf. 4,684-4,722 ft., Woodruff zone 4,684-4,730 ft.

MISSISSIPPI WILDCAT REPORT

Chickasaw County: Century Oil Co. 1-A Flaherty, S½ SW SW 8-13s-3e, drilling deeper from 2,340 ft., drilled by fish 2,000 ft.

Copiah County: Ze Nae Oil Co. 1 W. W. Broom, SW SW SW 1-9n-8e, S.D. 2,905 ft.

Grenada County: Grenada County Drlg. & Dev. Co. 1 Connecticut General, NW SE 28-23n-5e, S.D. 3,735 ft.

H. T. Salter et al 1 Carpenter, NE SE 6-21n-7e, S.D. rig.

Kemper County: Darrell C. Williams et al 1 McKelvain, SE NE 2-9n-17e, drilling 1,337 ft.

Leake County: Sinclair Wyoming Oil Co. 1 Pearl River, NW SE NW 28-9n-6e, T.D. 7,615 ft., fishing drill pipe.

Montgomery County: Henderson Oil Co. 1 School Land, SE NE SW 16-19n-6e, S.D. 3,720 ft.

Sharkey County: British American Oil Prod. Co. 1-A Houston est., NW NE SW 23-11-7w, drilled to 3,540, running electrical survey.

Stone County: Danciger Oil & Ref. Co. 1 Stone County, SE SW 16-2s-11w, drilling 5,615 ft.

New Wildcat Locations

Madison County: Sinclair Wyoming Oil Co. 1 Charles L. Harris, N½ SE SW 26-10n-5e, location.

ALABAMA COMPLETION

Wildcat, Limestone County: Shaw Johnson & Thompson 1 E. E. Carter, SE SW 35-2s-5w, T.D. 520 ft., dry.

ALABAMA WILDCAT DRILLING REPORT

Clarke County: Union Producing Co. 1 M. M. Waite, C NW 27-8n-1w, set 10¾-in. casing 5,265 ft., W.O.C.

Fayette County: B. L. Fillingame et al Ala. Educational Assn., NW SW 3-16s-12w, S.D. 1,700 ft., W.O. wire line.

Franklin County: E. O. Heath 1 W. O. Hester, SW SW 4-6s-12w, drilling chert 875 ft.

New Wildcat Location

Lauderdale County: G. F. Mercer 1 Mrs. Neil C. Patterson, NW SE 8-2s-12w, drilling 45 ft., set 12½-in. casing 38 ft.

Alberta Tests Near Production

LETHBRIDGE.—Lethbridge Petroleums 1, LSD 12, 11-8-22w4, top Madison 4,144 ft., cemented 4¾-in. production string at 4,151 ft. Oil was encountered at the Madison contact. It is a dark green crude, the first bailed testing 31° but later improving to 36°. No water has developed in the Madison, but about 4 bbl. daily is coming from the Sunburst, which will be shut off, and the lime acidized for a thorough test. It may be a fair commercial producer.

TABER.—Border Petroleums 1, LSD 5, 32-19-17w4, standing at 3,480 ft. has shut off most of the water, and is preparing to test production. Plains Petroleum 2 is on the pump, and shipping considerable crude to the Warner refinery.

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CRUDE-OIL PRICES . . .

OKLAHOMA AND KANSAS GRAVITY TABLES

	1	2	3	4	5	6	7	8
Below 21	....	....	....	....	$.85	$.75	....	$.70
21-21.9	....	....	....	....	.87	.78	....	.73
22-22.9	....	....	....	....	.89	.81	....	.76
23-23.9	....	....	....	....	.91	.84	....	.79
24-24.9	....	....	....	....	.93	.87	....	.82
Below 25	$.93	....	....	$.86	....	....	....	....
25-25.9	.95	.95	....	.88	.95	.90	....	.85
26-26.9	.97	.97	....	.90	.97	.93	....	.88
27-27.9	.99	.99	....	.92	.99	.96	....	.91
28-28.9	1.01	1.01	1.01	.94	1.01	.99	....	.94
29-29.9	1.03	1.03	1.03	.96	1.03	1.02	....	.97
30-30.9	1.05	1.05	1.05	.98	1.05	1.05	$1.05	1.00
31-31.9	1.07	1.07	1.07	1.00	1.07	1.07	1.07	1.02
32-32.9	1.09	1.09	1.09	1.02	1.09	1.09	1.09	1.04
33-33.9	1.11	1.11	1.11	1.04	1.11	1.11	1.11	1.06
34-34.9	1.13	1.13	1.13	1.06	1.13	1.13	1.13	1.08
35-35.9	1.15	1.15	1.15	1.08	1.15	1.15	1.15	1.10
36-36.9	1.17	1.17	1.17	1.10	1.17	1.17	1.17	1.12
37-37.9	1.19	1.19	1.19	1.12	1.19	1.19	1.19	1.14
38-38.9	1.21	1.21	1.21	1.14	1.21	1.21	1.21	1.16
39-39.9	1.23	1.23	1.23	1.16	1.23	1.23	1.23	1.18
40 and above	1.25	1.25	1.25	1.18	1.25	1.25	1.25	1.20

OKLAHOMA AND KANSAS TABLE EXPLANATION

COLUMN (1) MID-CONTINENT GRADES:
Pure Oil Co., 5-20-41.
Gulf Oil Corp., 5-20-41.
Skelly Oil Co. (Kansas only), 5-19-41.
H. F. Wilcox Oil & Gas Co., 5-20-41.
COLUMN (2) MID-CONTINENT GRADES:
White Eagle Oil Purchasing Co., Inc., 5-19-41, Kansas only.
Sinclair Prairie Oil Marketing Co., 5-20-41.
COLUMN (3) MID-CONTINENT GRADES:
Continental Oil Co., 5-19-41.
Phillips Petroleum Co., 5-19-41.
Tide Water Associated Oil Co., 5-20-41.
COLUMN (4) JACKSON, TILLMAN COUNTIES:
Gulf Oil Corp., 5-20-41.
COLUMN (5) MID-CONTINENT GRADES:
Standard Oil Co., (Indiana), 5-20-41.
National Refining Co., 5-20-41.
COLUMN (6) MID-CONTINENT GRADES:
Magnolia Petroleum Co., 5-21-41.
Shell Oil Co., Inc., 5-19-41.
COLUMN (7) OKLAHOMA:
Champlin Refining Co., 5-20-41.
COLUMN (8) CARTER COUNTY, OKLAHOMA including Healdton, Oscar, Spring and Seay.
Shell Oil Co., Inc., 5-19-41.
Ben Franklin Refining Co., 5-20-41.

OKLAHOMA FLAT PRICE

Cumberland $1.12
Pure Oil Co., 5-20-41.

MIDDLE WEST FLAT PRICES

Illinois and Indiana

Ohio Oil Co.:
Illinois basin, 5-21-41 ..... $1.37
Eastern Illinois, 5-21-41 ..... 1.22
Western Indiana, 5-21-41 ..... 1.22
Magnolia Petroleum Co.:
Illinois basin, 5-21-41 ..... $1.37
Carter Oil Co.:
Illinois (Louden), 5-21-41 ..... $1.37
Sohio Corp.:
Illinois basin, 5-21-41 ..... $1.37
Texas Co.:
Illinois basin, 5-21-41 ..... $1.37
Gulf Refining Co.:
Illinois basin, 5-21-41 ..... $1.37

Michigan

Simrall Corp., 5-27-41:
Greendale, Porter, Vernon, Crystal, and Wise $1.44
Buckeye, Bentley, Edenville, Beaverton, and Monitor (sweet) 1.42
Freeman, Redding, Lincoln, and Winterfield 1.39
Hamilton-Grout 1.29
West Branch-Arenac 1.24
Sohio Corp., 5-1-41:
Bloomingdale-Columbia $1.38
Mid-West Refineries, Inc., 5-1-41:
Kent County $1.38
Pure Oil Co., 5-27-41:
Sherman $1.39
Midland (Midland County) $1.44

Kentucky

Ashland Oil & Transportation Co., 6-19-41:
Big Sandy River $1.38
Kentucky River 1.43
Sohio Corp., 5-21-41:
Birk City $1.15

EASTERN STATES

Pennsylvania and Ohio

South Penn Oil Co.:
National lines, 6-18-41 ..... $2.75
Southwest Penn, 6-18-41 ..... 2.40
Eureka lines, 6-18-41 ..... 2.34
Corning grade, 5-27-41 ..... 1.31
Tide Water Associated Oil Co.:
Bradford, 6-18-41 ..... 2.75
Allegany, N. Y., 6-18-41 ..... 2.75
Pennzoil Co.:
Group A, 6-18-41 ..... $2.68
Group B, 6-18-41 ..... 2.67
Group C, 6-18-41 ..... 2.66
Group D, 6-18-41 ..... 2.65
Group E, 6-18-41 ..... 2.63
Quaker State Oil Refining Corp.:
In Buckeye lines, 6-18-41 ..... $2.30
In Eureka lines, 6-18-41 ..... 2.34

West Virginia

Pure Oil Co.:
Cabin and Kelly Creek, 6-18-41 $2.34
Cotton Valley dist. (above 60°) .. 1.30
Cotton Valley (Holloway sand) .. 1.25
Cotton Valley (Bodcaw-D sands) 1.20
Pure Oil Co.:
Bosco (5-21-41) $1.14
Sweet Lake (5-22-41) 1.06
Creole (5-22-41) 1.16
Republic Oil Co., 6-2-41:
Nevada County, Arkansas $0.80
Shell Oil Co., Inc., 5-20-41:
Happytown $1.15
Standard Oil Co. of Louisiana, 4-1-41:
Big Creek, Dorcheat, McKamie (sour) $1.15
Smackover (heavy) ..... .83
Cotton Valley distillate 1.30
Cotton Valley (Holloway sand) .. 1.25
Lisbon distillate 1.20
Republic Oil Refining Co., 5-21-41:
Bayou Pigeon $1.20
Texas Co., 5-21-41:
Erath $1.21
Garden Island 1.36
Lafitte, Paradis 1.19
Lake Mongoulois 1.36

ROCKY MOUNTAIN GRAVITY TABLE

Below 29 ..... $0.96
29-29.9 ..... .98
30-30.9 ..... 1.00
31-31.9 ..... 1.02
32-32.9 ..... 1.04
33-33.9 ..... 1.06
34-34.9 ..... 1.08
35-35.9 ..... 1.10
36-36.9 ..... 1.12
37-37.9 ..... 1.14
38-38.9 ..... 1.16
39-39.9 ..... 1.18
40 and above 1.20

Stanolind Oil & Gas Co., 5-20-41, includes Dutton Creek, Midway and Salt Creek except Tensleep crude, Wyoming.
Sinclair Wyoming Oil Co., 5-20-41, includes Salt Creek and Lost Soldier, except Tensleep crude, Wyoming.
Continental Oil Co., 5-21-41, includes Fort Collins and Wellington, Colorado.

Wyoming

Ohio Oil Co., 5-20-41:
Rock River $1.15
Lance Creek ..... .92
Elk Basin and Grass Creek (light) 1.00
Stanolind Oil & Gas Co., 5-20-41:
Frannie (light) ..... .70
Frannie (heavy) ..... .47
Grass Creek (light) 1.00
Grass Creek (heavy) ..... .50
Hamilton Dome ..... .45
Elk Basin 1.00
Salt Creek (Tensleep) ..... .6785
Continental Oil Co.:
Big Muddy (4-1-41) $0.98
Lance Creek (5-21-41) ..... .92

TEXAS GULF COAST GRAVITY TABLES

	(1)	(2)	(3)	(4)	(5)
Below 20	$1.06	$1.06	....	$.98	$.93
20-20.9	1.08	1.08	....	1.00	.95
Below 21	....	....	$1.08	....	....
21-21.9	1.10	1.10	1.10	1.02	.97
22-22.9	1.12	1.12	1.12	1.04	.99
23-23.9	1.14	1.14	1.14	1.06	1.01
24-24.9	1.16	1.16	1.16	1.08	1.03
25-25.9	1.18	1.18	1.18	1.10	1.05
26-26.9	1.20	1.20	1.20	1.12	1.07
27-27.9	1.22	1.22	1.22	1.14	1.09
28-28.9	1.24	1.24	1.24	1.16	1.11
29-29.9	1.26	1.26	1.26	1.18	1.13
30-30.9	1.28	1.28	1.28	1.20	1.15
31-31.9	1.30	1.30	1.30	1.22	1.17
32-32.9	1.32	1.32	1.32	1.24	1.19
33-33.9	1.34	1.34	1.34	1.26	1.21
34-34.9	1.36	1.36	1.36	1.28	1.23
35-35.9	1.38	....	1.38	1.30	1.25
36-36.9	1.40	....	1.40	1.32	1.27
37-37.9	1.42	....	1.42	1.34	1.29
38-38.9	1.44	....	1.44	1.36	1.31
39-39.9	1.46	....	1.46	1.38	1.33
40 and above	1.48	....	1.48	1.40	1.35

TEXAS GULF COAST GRAVITY TABLE EXPLANATION

COLUMN (1):
Humble Oil & Refining Co., 5-21-41, includes Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa (new), Raccoon Bend, South Thompsons, Sugarland, Thompsons, and Webster fields.
Stanolind Oil & Gas Co., 5-21-41, includes West Beaumont, High Island and Spindletop.
Sinclair Prairie Oil Marketing Co., 5-21-41.
Stanolind Oil Purchasing Co., 4-1-41, includes Clinton where schedule starts at 98 cents for below 21°, regular thereafter.
Pure Oil Co., 4-21-41, includes Louise and Ganado.
Gulf Refining Co., 5-21-41, includes Spindletop, Sour Lake, Lovells Lake, West Beaumont, Goose Creek, South Liberty, Big Creek, Blue Ridge, Fannett, Moore, Barbers Hill, Hankamer, Thompson, Lochridge, Dyersdale, and Hull (old).
Sun Oil Co., 5-21-41, includes Barbers Hill, Batson (old), Bayou Blue, Chacahoula, Cotton Lake, Esperson (below 35° gravity), Fausse Pointe, Goose Creek, Greens Lake, Hackberry (east and west), Hull (below 25°), Humble (below 35°), Nome, North Dayton (below 25°), Orange, Saratoga, Sour Lake, South Liberty and Vinton.
COLUMN (2):
Texas Co., 5-21-41, includes Arriola, Ganado, Hamman, Hillje, Humble, Kubela, Magnet, Manvel, Markham, Mauritz, Old Ocean, Pickett Ridge, Port Neches, Sour Lake, West Columbia, and Withers.
COLUMN (3):
Pan American Production Co., 5-21-41,

LOUISIANA AND SOUTHERN ARKANSAS GRAVITY TABLE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Below 18	....	....	....	....	....	....	....	....	....	....	....	....	$.94	....	....	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	....	....	....	.96	....	....	....	....	....
19-19.9	....	....	....	....	....	....	....	....	....	....	....	....	.98	....	....	....	....	....
Below 20	....	....	....	....	....	....	....	$1.06	....	$.94	$.99	$.89	....	....	$1.06	....	....	....
20-20.9	....	....	....	....	....	....	....	1.08	....	.96	1.01	.91	1.00	....	1.08	....	....	....
Below 21	$.68	....	....	$.90	....	....	....	....	....	....	....	....	....	$.90	....	....	....	....
21-21.9	.70	....	....	.92	....	....	....	1.10	....	.98	1.03	.93	1.02	.92	1.10	....	....	....
22-22.9	.72	....	....	.94	....	....	....	1.12	....	1.00	1.05	.95	1.05	.94	1.12	....	....	....
23-23.9	.74	....	....	.96	....	....	....	1.14	....	1.02	1.07	.97	1.08	.96	1.14	....	....	....
24-24.9	.76	....	....	.98	....	....	....	1.16	....	1.04	1.09	.99	1.11	.98	1.16	....	....	....
Below 25	....	$.86	$.98	....	....	$.88	....	....	....	....	....	....	....	....	....	....	....	....
25-25.9	.78	.88	1.00	1.00	....	.90	....	1.18	....	1.06	1.11	1.01	1.14	1.00	1.18	....	....	....
26-26.9	.80	.90	1.02	1.02	....	.92	....	1.20	....	1.08	1.13	1.03	1.17	1.02	1.20	....	....	....
27-27.9	.82	.92	1.04	1.04	....	.94	....	1.22	....	1.10	1.15	1.05	1.19	1.04	1.22	....	....	....
28-28.9	.84	.94	1.06	1.06	....	.96	....	1.24	....	1.12	1.17	1.07	1.21	1.06	....	$1.14	$1.06	....
29-29.9	.86	.96	1.08	1.08	....	.98	....	1.26	....	1.14	1.19	1.09	1.23	1.08	....	1.16	1.08	....
30-30.9	.88	.98	1.10	1.10	$1.26	1.00	....	1.28	....	1.16	1.21	1.11	1.25	1.10	....	1.18	1.10	$1.05
31-31.9	.90	1.00	1.12	1.12	1.28	1.02	....	1.30	$1.07	1.18	1.23	1.13	1.27	1.12	....	1.20	1.12	1.07
32-32.9	.92	1.02	1.14	1.14	1.30	1.04	....	1.32	1.09	1.20	1.25	1.15	1.29	1.14	....	1.22	1.14	1.09
33-33.9	.94	1.04	1.16	1.16	1.32	1.06	....	1.34	1.11	1.22	1.27	1.17	1.31	1.16	....	1.24	1.16	1.11
34-34.9	.96	1.06	1.18	1.18	1.34	1.08	....	1.36	1.13	1.24	1.29	1.19	1.33	1.18	....	1.26	1.18	1.13
35-35.9	.98	1.08	1.20	1.20	1.36	1.10	....	....	1.15	....	....	....	....	1.20	....	1.28	1.20	1.15
Below 36	....	....	....	....	....	....	$1.07	....	....	....	....	....	....	....	....	....	....	....
36-36.9	1.00	1.10	1.22	1.22	....	1.12	1.09	....	1.17	....	....	....	....	1.22	....	1.30	1.22	1.17
37-37.9	1.02	1.12	1.24	1.24	....	1.14	1.11	....	1.19	....	....	....	....	....	....	....	....	1.19
38-38.9	1.04	1.14	1.26	1.26	....	1.16	1.13	....	1.21	....	....	....	....	....	....	....	....	1.21
39-39.9	1.06	1.16	1.28	1.28	....	1.18	1.15	....	1.23	....	....	....	....	....	....	....	....	1.23
40 & above	1.08	1.18	1.30	1.30	....	1.20	1.17	....	1.25	....	....	....	....	....	....	....	....	1.25

LOUISIANA AND SOUTHERN ARKANSAS TABLE EXPLANATION

Standard Oil Co. of Louisiana, 5-22-41.
COLUMN (1) applies to Atlanta, Buckner, Magnolia, Schuler (Jones sand), Village and Lewisville fields.
COLUMN (2) applies to Caddo, De Soto, Sabine, Fouke, Homer, Miller County, Sugar Creek and Nebo.
COLUMN (3) applies to Bunkie, Eola, Olla and South Olla.
COLUMN (4) applies to Bayou Mallet, Choctaw, Darrow, Jeanerette, Lirette, North Crowley, South Crowley, Port Barre, Potash, Roanoke, St. Martinville and Port Allen.
COLUMN (5) applies to University (Baton Rouge).
COLUMN (6) applies to Cotton Valley crude, Rodessa and Shreveport (Cross Lake).
Continental Oil Co., 5-21-41.
COLUMN (7) applies to Abbeville, Louisiana.
Continental Oil Co., 5-21-41.
Stanolind Oil & Gas Co., 5-21-41.
COLUMN (8) applies to East and West Hackberry.
COLUMN (2) applies to Caddo Parish.
COLUMN (9) applies to Evangeline, Acadia Parish.
Lion Oil Refining Co., 5-22-41.
COLUMN (1) applies to Reynolds lime, Jones sand, Schuler, Ark.
COLUMN (2) applies to El Dorado, West and South Rainbow fields, Snow Hill and Schuler-Morgan sand.
Placid Oil Co., 5-22-41.
COLUMN (3) applies to Olla.
COLUMN (2) applies to Nebo field.
Shell Oil Co., Inc., 5-20-41.
COLUMN (10) applies to Roanoke, Chalkley.
COLUMN (11) applies to Iowa, Black Bayou, White Castle.
COLUMN (12) applies to Gibson, South Houma, Hester, West Lake Verret.
Magnolia Petroleum Co., 5-21-41.
COLUMN (13) applies to Lockport, Cameron Meadows, and West Gueydan, La.
COLUMN (6) applies to Haynesville, Cotton Valley, Rodessa, La., and Miller County, Arkansas.
Phillips Petroleum Co., 3-29-41.
COLUMN (1), Schuler (Jones sand), except schedule starts at 76 cents for below 25° gravity.
Gulf Refining Co., 5-21-41.
COLUMN (9), Jennings.
COLUMN (8), Edgerly, Starks, Vinton, East Hackberry, Cameron Meadows, Leesville, Timbalier Bay, Grand Bay Quarantine Bay, and West Bay.
COLUMN (6) applies to Caddo, Homer, Bull Bayou, Crichton, De Soto, Haynesville and El Dorado.
Pure Oil Co. 4-22-41.
COLUMN (14) applies to Gueydan crude.
COLUMN (6), Caddo, Homer, Haynesville, Bull Bayou, Crichton, De Soto, and El Dorado.
Texas Co., 5-21-41.
COLUMN (6) applies to North Louisiana.
COLUMNS (15) and (16), Bay St. Elaine, Caillou Island, Iberia, Lake Barre, Lake Pelto, Leesville, Port Barre. (Schedules A and B).
COLUMN (17), Bateman Lake, Dog Lake, Fausse Point, Horseshoe Bayou, Jefferson Island, Plumb Bob, Vermilion Bay, West Cote Blanche and Delta Duck Club.
COLUMN (18), Delta Farm, Lake Salvador, Golden Meadow.

LOUISIANA AND ARKANSAS FLAT PRICES

Continental Oil Co., 5-21-41:
Tepetate and Lake Arthur $1.18
Ville Platte 1.20
Gulf Refining Co., 5-21-41:
Smackover (Ark.) $0.83
Lion Oil Refining Co., 5-22-41:
Smackover (heavy) $0.83
Dorcheat 1.15
Phillips Petroleum Co., 5-22-41:
Smackover (heavy) $0.83
Placid Oil Co., 5-22-41:
Tullos-Urania (5-21-41) $1.15

includes Hastings and South Houston.
Stanolind Oil & Gas Co., 4-1-41, includes High Island, Spindletop, Hastings, and South Houston.
COLUMN (4):
Humble Oil & Refining Co., 5-21-41, includes Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (new and old), Pierce Junction, Red Fish Reef, and Turtle Bay.
Gulf Refining Co., 5-21-41, includes Anahuac, Hull (new), Thompson (deep), Pierce Junction, and Orange.
Sun Oil Co., 5-21-41, includes Anahuac, Caplen and Turtle Bay.
Humble Oil & Refining Co., 3-29-41, includes Dickinson, Gillock, Hardin, League City, and Rowan.
Stanolind Oil & Gas Co., 5-21-41, includes Fairbanks, North Houston, and Rosyln.
COLUMN (5):
Pan American Production Co., 5-21-41, includes Gillock, except scale starts at 95 cents below 21°.
(Continued on Page 82)

SOUTH TEXAS AND SOUTHWEST TEXAS GRAVITY TABLES

	1	2	3	4	5	6	7	8
Below 20	$1.03	$1.08	$1.08	$.89	$1.03	$1.03		$1.08
20-20.9	1.05	1.10	1.10	.90	1.05	1.05	$1.10	1.10
21-21.9	1.07	1.12	1.12	.91	1.07	1.07	1.12	1.12
22-22.9	1.09	1.14	1.14	.92	1.09	1.09	1.14	1.14
23-23.9	1.11	1.16	1.16	.93	1.11	1.11	1.16	1.16
24-24.9	1.13	1.18	1.18	.94	1.13	1.13	1.18	1.18
25-25.9	1.15	1.20	1.20	.95	1.15	1.15	1.20	1.20
26-26.9	1.17	1.22	1.22	.96	1.17	1.17	1.22	1.22
27-27.9	1.19	1.24	1.24	.97	....	1.19	1.24	1.24
28-28.9	1.21	1.26	1.26	.98	....	1.21	1.26	1.26
29-29.9	1.23	1.28	....	.99	....	....	1.28	1.28
30-30.9	1.25	1.30	....	1.00	....	....	1.30	1.30
31-31.9	1.27	1.32	....	1.01	....	....	1.32	1.32
32-32.9	1.29	1.34	....	1.02	....	....	1.34	1.34
33-33.9	1.31	1.36	....	1.03	....	....	1.36	1.36
34-34.9	1.33	1.38	....	1.04	....	....	1.38	1.38
35-35.9	1.35	1.40	....	1.05	....	....	1.40	1.40
36-36.9	1.37	1.42	....	1.06	....	....	1.42	....
37-37.9	1.39	1.44	....	1.07	....	....	1.44	....
38-38.9	1.41	1.46	....	1.08	....	....	1.46	....
39-39.9	1.43	1.48	....	1.09	....	....	1.48	....
40 and above	1.45	1.50	....	1.10	....	....	1.50	....

SOUTH AND SOUTHWEST TEXAS TABLE EXPLANATION

COLUMN (1) MIRANDO:
Humble Oil & Refining Co., 5-21-41, includes Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (North and South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, and Tesoro.
Magnolia Petroleum Co., 5-21-41.
Continental Oil Co., 5-21-41, excepting scale starts at $1.05 for below 21°, otherwise regular. Includes Hoffman, Government Wells (North and South), Lopez, Moco, Colmena, Seven Sisters, South Seven Sisters, Loma Novia, Conoco Driscoll, O'Hern, Piedre Lumbre, and Taranchauas.
Amsco Pipe Line Co., 5-21-41, includes Adami and Munson.
Republic Oil Refining Co., 5-21-41, includes Heyser field crude.
COLUMN (2) REFUGIO:
Humble Oil & Refining Co., 5-21-41, includes East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, and Tom O'Connor.
Amsco Pipe Line Co., 5-21-41, includes Plymouth, Taft, and East White Point.
COLUMN (3) REFUGIO:
Texas Co., 5-21-41, includes Greta, Saxet, and Taft.
COLUMN (4) LA ROSA:
Amsco Pipe Line Co., 3-29-41.
COLUMN (5) DUVAL-MIRANDO:
Sun Oil Co., 5-21-41.
COLUMN (6) DUVAL-MIRANDO:
Texas Co., 5-21-41.
COLUMN (7) CLARA DRISCOLL:
Continental Oil Co., 5-21-41, includes Minnie Bock, Clara Driscoll, South Clara Driscoll, Driscoll Ranch, Orange Grove, and Wade City.
COLUMN (8) NUECES COUNTY:
Amsco Pipe Line Co., 5-21-41.
Republic Oil Refining Co., 5-21-41.

WEST TEXAS, PANHANDLE AND NEW MEXICO TABLE EXPLANATION

COLUMN (1):
Humble Oil & Refining Co., 5-21-41, includes Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, and Yoakum counties, West Texas; Carson, Gray, Hutchinson, and Wheeler counties in the Panhandle, and Lea County, New Mexico.
Gulf Refining Co., 5-21-41, includes Crane, Ector, Upton, Ward, and Winkler and the Panhandle.
COLUMN (2):
Sinclair Prairie Oil Marketing Co., 5-21-41, includes West Texas and Lea County, New Mexico.
Magnolia Petroleum Co., 5-21-41, includes Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum and Gaines counties.
COLUMN (3):
Texas Co., 5-21-41, includes crane and Winkler counties, Texas, and Lea County, New Mexico.
COLUMN (4) TEXAS PANHANDLE:
Magnolia Petroleum Co., 5-21-41.
Continental Oil Co., 5-21-41.
Phillips Petroleum Co., 5-21-41.
COLUMN (5) WINKLER AND LEA:
Stanolind Oil & Gas Co., 5-21-41, includes Winkler County only.
Gulf Refining Co., 4-1-41, includes Lea County, New Mexico, only.
COLUMN (6) GRAY COUNTY:
Texas Co., 5-21-41.
H. F. Wilcox Oil & Gas Co.
COLUMN (7) LEA COUNTY:
Magnolia Petroleum Co., 5-21-41.
COLUMN (8) EDDY COUTY:
Continental Oil Co., 5-30-41.
COLUMN (9):
Shell Oil Co., Inc., 5-20-41, includes Crane, Ector, Howard, Glasscock, Upton, Winkler, and Yoakum counties, Texas, and Lea County, New Mexico.
COLUMN (10) GRAY COUNTY:
H. F. Wilcox Oil & Gas Co., 5-21-41.
COLUMN (11) EDDY COUNTY, N. M.:
Sinclair Prairie Oil Marketing Co., 5-30-41.
COLUMN (12) PANHANDLE:
Sinclair Prairie Oil Marketing Co., 5-23-41.

WEST TEXAS, PANHANDLE, AND NEW MEXICO GRAVITY TABLES

	1	2	3	4	5	6	7	8	9	10	11	12
Below 20	$0.70	....	....	....	....	....	....	....	$0.70	....	....	....
20-20.9	.72	....	....	....	....	....	....	....	.72	....	....	....
21-21.9	.74	....	....	....	....	....	....	....	.74	....	....	....
22-22.9	.76	....	....	....	....	....	....	....	.76	....	....	....
23-23.9	.78	....	$0.78	....	....	....	....	....	.78	....	....	....
24-24.9	.80	....	.80	....	....	....	....	....	.80	....	....	....
Below 25	....	$0.80	....	....	....	....	$0.80	....	....	....	$0.95	$0.83
25-25.9	.82	.82	.82	....	$0.82	....	.82	....	.82	....	.97	.85
26-26.9	.84	.84	.84	....	.84	....	.84	....	.84	....	.99	.87
27-27.9	.86	.86	.86	....	.86	....	.86	....	.86	....	1.01	.89
28-28.9	.88	.88	.88	$0.88	.88	....	.88	$0.88	.88	....	1.03	.91
29-29.9	.90	.90	.90	.90	.90	....	.90	.90	.90	....	1.05	.93
30-30.9	.92	.92	.92	.92	.92	....	.92	.92	.92	....	1.07	.95
31-31.9	.94	.94	.94	.94	.94	....	.94	.94	.94	....	1.09	.97
32-32.9	.96	.96	.96	.96	.96	....	.96	.96	.96	....	1.11	.99
33-33.9	.98	.98	.98	.98	.98	....	.98	.98	.98	....	1.13	1.01
34-34.9	1.00	1.00	1.00	1.00	1.00	$1.03	1.00	1.00	1.00	$1.00	1.15	1.03
35-35.9	1.02	1.02	1.02	1.02	1.02	1.05	1.02	1.02	1.02	1.02	1.17	1.05
36-36.9	1.04	1.04	1.04	1.04	1.04	1.07	1.04	1.04	1.04	1.04	1.19	1.07
37-37.9	1.06	1.06	....	1.06	1.06	1.09	....	1.06	....	1.06	1.21	1.09
38-38.9	1.08	1.08	....	1.08	1.08	1.11	....	1.08	....	1.08	1.23	1.11
39-39.9	1.10	1.10	....	1.10	1.10	1.13	....	1.10	....	1.10	1.25	1.13
40 and above	1.12	1.12	....	1.12	1.12	1.15	....	1.12	....	1.12	1.27	1.15

NORTH TEXAS, WEST CENTRAL TEXAS, EAST CENTRAL TEXAS GRAVITY TABLES

	1	2	3	4	5	6	7	8
Below 20	....	....	....	....	$.80	....	....	....
20-20.9	....	....	....	....	.82	....	....	....
Below 21	....	....	....	....	....	$.68	....	....
21-21.9	....	....	....	....	.84	.70	....	....
22-22.9	....	....	....	....	.86	.72	....	....
23-23.9	....	....	....	....	.88	.74	....	....
24-24.9	....	....	....	....	.90	.76	....	....
Below 25	....	....	$.88	....	....	....	$0.86	$0.95
25-25.9	$.88	....	.90	$.97	.92	.78	.88	.97
26-26.9	.90	....	.92	.99	....	.80	.90	.99
27-27.9	.92	....	.94	1.01	....	.82	.92	1.01
28-28.9	.94	$.94	.96	1.03	....	.84	.94	1.03
29-29.9	.96	.96	.98	1.05	....	.86	.96	1.05
30-30.9	.98	.98	1.00	1.07	....	.88	.98	1.07
31-31.9	1.00	1.00	1.02	1.09	....	.90	1.00	1.09
32-32.9	1.02	1.02	1.04	1.11	....	.92	1.02	1.11
33-33.9	1.04	1.04	1.06	1.13	....	.94	1.04	1.13
34-34.9	1.06	1.06	1.08	1.15	....	.96	1.06	1.15
35-35.9	1.08	1.08	1.10	1.17	....	.98	1.08	1.17
36-36.9	1.10	1.10	1.12	1.19	....	1.00	1.10	1.19
37-37.9	1.12	1.12	1.14	1.21	....	1.02	1.12	1.21
38-38.9	1.14	1.14	1.16	1.23	....	1.04	1.14	1.23
39-39.9	1.16	1.16	1.18	1.25	....	1.06	1.16	1.25
40 and above	1.18	1.18	1.20	1.27	....	1.08	1.18	1.27

NORTH TEXAS, WEST CENTRAL TEXAS, EAST CENTRAL TEXAS TABLE EXPLANATION

COLUMN (1) WEST CENTRAL AND NORTH:
Humble Oil & Refining Co., 5-21-41, includes Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, and Throckmorton counties.
Panhandle Refining Co., 5-21-41, in Leuders area.
Gulf Refining Co., 5-21-41.
COLUMN (2) NORTH TEXAS:
Continental Oil Co., 5-21-41.
Magnolia Petroleum Co., 5-21-41.
Panhandle Refining Co., 5-21-41.
Sinclair Prairie Oil Marketing Co., 5-21-41.
Bell Oil & Gas Co., 5-21-41.
Texas Co., 5-21-41.
COLUMN (3) EAST CENTRAL:
Magnolia Petroleum Co., 5-21-41, includes Cass, Panola, and Rodessa (Texas and Louisiana), and Miller County, Arkansas.
Gulf Refining Co., 5-21-41, includes Rodessa, Texas.
COLUMN (4) EAST CENTRAL:
Humble Oil & Refining Co., 5-21-41, includes Anderson, Cherokee, Limestone, and Navarro counties and the Navarro Crossing field.
COLUMN (5) EAST CENTRAL:
Humble Oil & Refining Co., 5-21-41, includes Hawkins field.
COLUMN (6) NORTH TEXAS:
Stanolind Oil Purchasing Co., 5-21-41.
COLUMN (7) FISHER COUNTY:
Shell Oil Co., Inc., 5-20-41.
COLUMN (8) MEXIA:
Sinclair Prairie Oil Marketing Co., 5-30-41.

STANDARD OIL CO. OF CALIFORNIA

CRUDE-OIL PRICES EFFECTIVE MAY 23, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	(El Segundo)	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Elwood Terrace
14-14.9	....	$.68	....	....	$.71	....	....	$.70	....	$.70	$.70	$.70	$.72	....	....	....	....	....	$.73	$.73	$.73	....	....	....	....
15-15.9	....	.71	....	....	.75	$.76	....	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	....	....	....	....
16-16.9	....	.74	$.79	....	.79	.79	....	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	....	....	....	....
17-17.9	....	.78	.82	....	.82	.82	....	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	....	....	....	....
18-18.9	$.80	.82	.86	....	.86	.85	....	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	....	....	....	....
19-19.9	.84	.86	.90	....	.89	.88	....	.85	....	.83	.82	.85	.77	....	....	....	....	$.73	.81	.84	.75	....	....	....	....
20-20.9	.88	.90	.94	....	.93	.92	$.80	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	....	....	....	....
21-21.9	.92	.94	.98	....	.96	.95	.84	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	....	....	....	....
22-22.9	.96	.98	1.02	$.88	.99	.98	.87	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	$.76	....	....	....
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	....	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	.80	....	....	....
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	f.o.b.	1.01	....	1.01	1.02	1.03	.94	$.99	....	....	....	.90	1.03	.99	.89	.83	....	....	....
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	our	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	....	....	....	....
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	pipe	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	....	....	....	....
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	line	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	....	....	....	....
28-28.9	1.18	1.18	1.18	1.15	1.17	1.17	....	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	....	....	....	....
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	....	....	....	....
30-30.9	1.23	1.24	....	....	1.23	1.22	....	....	1.21	....	....	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	....	....	....	f.o.b.
31-31.9	....	....	....	....	....	1.24	....	....	1.25	....	....	....	1.19	1.24	1.19	1.04	1.12	1.14	....	....	1.06	....	....	....	ship
32-32.9	....	....	....	....	....	....	....	....	1.29	....	....	....	1.23	1.28	1.23	1.07	1.14	1.17	....	....	1.09	....	....	....	....
33-33.9	....	....	....	....	....	....	....	....	1.32	....	....	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	....	....	....	$1.22
34-34.9	....	....	....	....	....	....	....	....	1.36	....	....	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	....	....	....	1.25
35-35.9	....	....	....	....	....	....	....	....	....	....	....	....	1.35	....	....	1.16	1.22	....	....	....	....	....	$1.23	....	1.28
36-36.9	....	....	....	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	....	....	1.26	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....	....	1.29	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	....	....	....	....

Standard posts 73 cents for all grades at Newhall, Kern River, Kern Front, McKittrick and Round Mountain.

Personal Paragraphs

JAMES A. MOFFETT, chairman of the board of California-Texas Oil Co., Ltd., was married early this week to Mrs. Franklyn L. Hutton. The ceremony took place at White Sulphur Springs, W. Va.

RAUL ZUMELZUR, mining engineer and president of the oil commission of Bolivia, is spending several days in Houston, Tex., inspecting equipment which he expects to buy for his country. Mr. Zumelzur was accompanied by IRA KING, petroleum engineer, a native Texan and formerly with the Railroad Commission, who is now associated with the Bolivian tin mines.

E. C. HEINZ, of Tide Water Associated Oil Co., has been appointed Los Angeles district sales manager succeeding F. S. SHOUP, who becomes special sales representative in the Southern California district with headquarters in Los Angeles.

MICHAEL J. CONNOR, purchasing agent for United Natural Gas Co., Oil City, Pa., was retired by that concern July 1. He has been employed by United since 1916. During his college years he won track honors as a middle-distance runner. He was a member of the track team at Notre Dame and also at Villanova and held two records.

FRANK C. SMITH, president of the Houston Natural Gas Corp., Houston, Tex., has been named chairman of the board of trustees of the gas industry's newly formed Institute of Gas Technology. This is an affiliate of the Illinois Institute of Technology at Chicago.

MAYNARD M. STEVENS, supervisor of petroleum and natural-gas extension service of Pennsylvania State College since 1936, is now associated with Ryder Scott Co., petroleum engineers, Bradford, Pa. He was graduated from the University of Minnesota in 1930 and received his doctor's degree from that institution in 1934.

WILLARD KNAPP, of Mines Oil Co., Long Beach, Calif., has been elected president of the Oil Field Accountants Association, and E. G. KIMME, of the A. S. Johnston Drilling Co., Long Beach, has been elected vice president. RICHARD HILDEBRAND, of McCallen Refining Co., Huntington Beach, Calif., was elected secretary-treasurer at the meeting held in Long Beach recently.

BRAME WOMACK, scout, Southern Natural Gas Co., has been transferred from Shreveport, La., to Jackson, Miss.

FRED C. SEALEY, manager, foreign production department, Texas Co., has returned from Colombia and Venezuela, where he has been on an inspection trip.

HERBERT A. MORRISS II, production engineer for Union Producing Co., Shreveport, La., has gone to Camp Davis, Hollyridge, N. C., as first lieutenant, C.A.C.

FRANK S. HUDSON, former chief geologist in California for Shell Oil Co., Inc., is now efficiency engineer for Yuba Consolidated Gold Fields, San Francisco, Calif.

LEON C. GROSJEAN, secretary to the Ark-La-Tex Division, W.P.R.A., will join the organization in the Tulsa office upon the closing of the divisional office July 1.

S. MOSER, of Standard Oil Co. of California, has been promoted to the position of manager of pipe lines, succeeding H. N. KUECHLER, who has retired from active service with the company.

GEORGE H. METTAM, assistant general manager of refineries, Standard Oil Co. of New Jersey, is one of three honorary chairmen directing the campaign of Bayonne, N. J., to raise funds for the U. S. O.

ROBERT CURTIS HULL, retired production accountant in the Tulsa offices of the Gulf Oil Corp., was the recipient of congratulations from friends and fellow employes at a house party last Sunday afternoon in his honor.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

On Friday last, the United States Geological Survey made public a statement that the present year's output of petroleum would break all records. The quantity marketed for the first half of the year was 140,000,000 bbl.

Owing to rush orders for machinery used in the manufacture of gasoline, many projected plants throughout the country are on the waiting list.

In order to provide storage for its surplus production, the Sunflower Oil Co. (a C. J. Wrightsman and J. B. Foster concern) is planning to construct a number of big tanks in the El Dorado field, in Kansas.

W. H. Green, general superintendent of the Huasteca Oil Co. at Tampico, Mex., has been taken aboard the American gunboat Marietta which is en route from Vera Cruz to Galveston. All Americans have now left Tampico, according to the report received here.

20 YEARS AGO

There is no limit to the forecasts one may hear in the oil districts at this time. One rumor now in circulation in the Mid-Continent country is to the effect that pipe-line runs are to be curtailed, as are runs in eastern fields.

Independent Pennsylvania oil producers, after another 25-cent cut a barrel in Pennsylvania and West Virginia grades of crude, appealed for aid in the way of a tariff on imported crude oils.

10 YEARS AGO

The Cranfill plan of curtailing production in the East Texas district went by the board this week after a trial by a majority of operators during a 10-day period when backers of the plan tried to obtain cooperation from all producers in the district in an effort to give the plan a fair deal.

Charles R. Ewing, director of the Imperial Oil, Ltd., in charge of manufacturing, died June 22 in a hospital at Buffalo, N. Y. His death was due to injuries received in an automobile accident June 17 near Chaffee, N. Y.

W. H. GEIS, special representative of Union Oil Co., Los Angeles, Calif., field department, has been appointed assistant to the president, REESE H. TAYLOR.

K. J. CHANDLER, accountant with Mene Grande Oil Co. at Barcelona, Venezuela, and his family are spending a 3-month vacation in the United States. Mr. Chandler will leave Tulsa this week for California.

DOUGLAS RAGLAND has been elevated to the position of division engineer at Corpus Christi, Tex., for Humble Oil & Refining Co., being promoted from assistant division engineer at Houston, Tex.

MURRAY C. SELLS, Gladewater, Tex., oil operator, was president of the Gladewater Roundup and Rodeo for 1941, this being his fourth year in that office. The Roundup ended its 4-day show last Friday.

ROBERT B. DUGGER, who has been assistant engineer for Shell Oil Co., Inc., in the Ventura Avenue field, California, has been promoted to general foreman and transferred to Bakersfield, where he will make his headquarters.

ED W. OWEN, chief geologist for L. H. Wentz, and president of the American Association of Petroleum Geologists, has returned to his home and station at San Antonio, Tex., after a tour of the branch societies of the organization.

OTTO KOCH, president, Kendall Refining Co., who celebrated his seventy-fifth birthday early last month, received tokens of esteem at the company's annual picnic last week, which was attended by 1,800 employes and their families.

JOHN C. CASE, production department manager, Socony-Vacuum Oil Co., sailed recently for South America.

R. F. HODGEMAN, scout with the Texas Co., has transferred from the Shreveport, La., district office to Jackson, Miss.

GEORGE C. McGHEE, geologist and geophysicist, Dallas, Tex., is now in Washington, D. C., where he is in the Office of Production Management.

FRANK W. BEACH, who has just been graduated from University of Minnesota, has joined Cities Service Oil Co., Bartlesville, Okla., as junior engineer.

G. R. GIBSON, Columbus, Ohio, a former professor of geology at Ohio State University, has joined the geological staff of Magnolia Petroleum Co. at Midland, Tex.

ROBERT BROWN, Pottsville, Pa., who recently graduated from Wooster College in Ohio, has joined the research staff of Phillips Petroleum Co., Bartlesville, Okla.

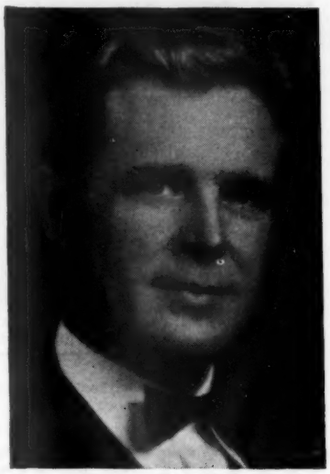
DR. K. K. LANDES, assistant head of the geology faculty of University of Kansas, and assistant director of the Kansas Geological Survey, has resigned to become head of the department of geology of the University of Michigan.

DAN RALLS, formerly assistant in the scouting office of Magnolia Petroleum Co., Dallas, Tex., has been named district field scout for the Wichita Falls, Tex., area. He succeeds W. GRAYSON RAY, who was last week named chief scout for Magnolia.

C. M. BRYSON, superintendent of the Toronto Pipe Line Co. (British American), has resigned effective July 1. For the past several months Mr. Bryson has been stationed in Grayville, Ill., building and operating the company's system in the Wabash-White counties area. Successor to Mr. Bryson has not been named.

Went Geological Route

Noel H. Stearn, vice president of W. C. McBride, Inc., St. Louis, Mo., in charge of land, exploration, drilling and development, is a Hoosier by birth, having been born in Lafayette, Ind., in 1896. He attended Stanford University, receiving his A.B. degree in 1917, and his M.A. in 1918. He spent a year with the army, first as athletic officer at Camp Kearney, California, and then as morale officer at Fort Sam Houston A. R. C.



NOEL H. STEARN

Following the war, he spent 3 years with the Wisconsin Geological Survey. He was chief of field parties in mineral land classification, magnetic exploration, and building minerals exploration. Following this experience he turned pedant and for 2 years was an instructor in the department of geology at the University of Wisconsin, teaching general geology and sedimentation.

From 1924 until the present, Mr. Stearn has practiced consulting work, in such ramified phases of geology as mineral land classification and magnetic exploration, mine examination, geophysical exploration for oil and gas, geomagnetic exploration for diamond-bearing peridotites, geomagnetic exploration for bauxite and a variety of others. This work has taken him to Michigan, Mexico, British Colombia, Arkansas, Arizona, Tennessee, New Mexico, Texas, Oklahoma, Kansas, and Illinois.

From 1930 to 1940, he was chief geologist for W. C. McBride, Inc., and chief geologist and vice president of Southwestern Quicksilver Co. He is author of nearly a score of articles that have appeared in technical bulletins and trade magazines.

He is a coinventor, with W. O. Hotchkiss, of the Hotchkiss Superdip magnetometer, and of the temperature correction slide rule.

E. S. MOORE, preduction foreman with Carter Oil Co., has transferred from Homer, La., to St. Elmo, Ill.

T. REX ALFORD, with Mene Grande Oil Co., in Venezuela, has been transferred from Maracaibo to Barcelona.

J. E. HOLM, zone agent in charge of Oklahoma and Kansas developments of Atlantic Refining Co., with Mrs. Holm is vacationing in Mexico.

J. MARION WEST, president of the West Production Co., Houston, Tex., has returned to Houston after an extended visit to the East Coast.

VICTOR E. GREEN, Hamilton, Ont., Canada, for 32 years with Imperial Oil, Ltd., and for 41 years connected with the oil business, has retired from active service.

G. H. SUMMERS, field assistant in the geophysics department of Continental Oil Co., Ponca City, Okla., has been transferred from Bay City, Tex., to Edmond, Okla.

LT. JOHN W. MOSELEY, petroleum engineer with Arkansas Fuel Oil Co., Shreveport, has returned to his home state upon accepting active duty with the U. S. Army Engineers at Lowry Field, Colorado.

SPENCE T. TAYLOR, formerly petroleum engineer for Tide Water Associated Oil Co. at Santa Fe Springs, Calif., has joined the staff of the Long Beach Oil Development Co., Long Beach, Calif.

J. C. FORTENBERRY, scout with Phillips Petroleum Co., Shreveport, La., has been transferred to the company's Oklahoma City district. His duties in Shreveport have been taken over by W. O. HARRIS, geologist.

CHESTER H. GEIGER, scout with Standard Oil Co. of Louisiana and its successor company, Louark Producing Co. in El Dorado, Ark., has been transferred to St. Elmo, Ill., by Carter Oil Co., which recently merged with Louark Producing Co.

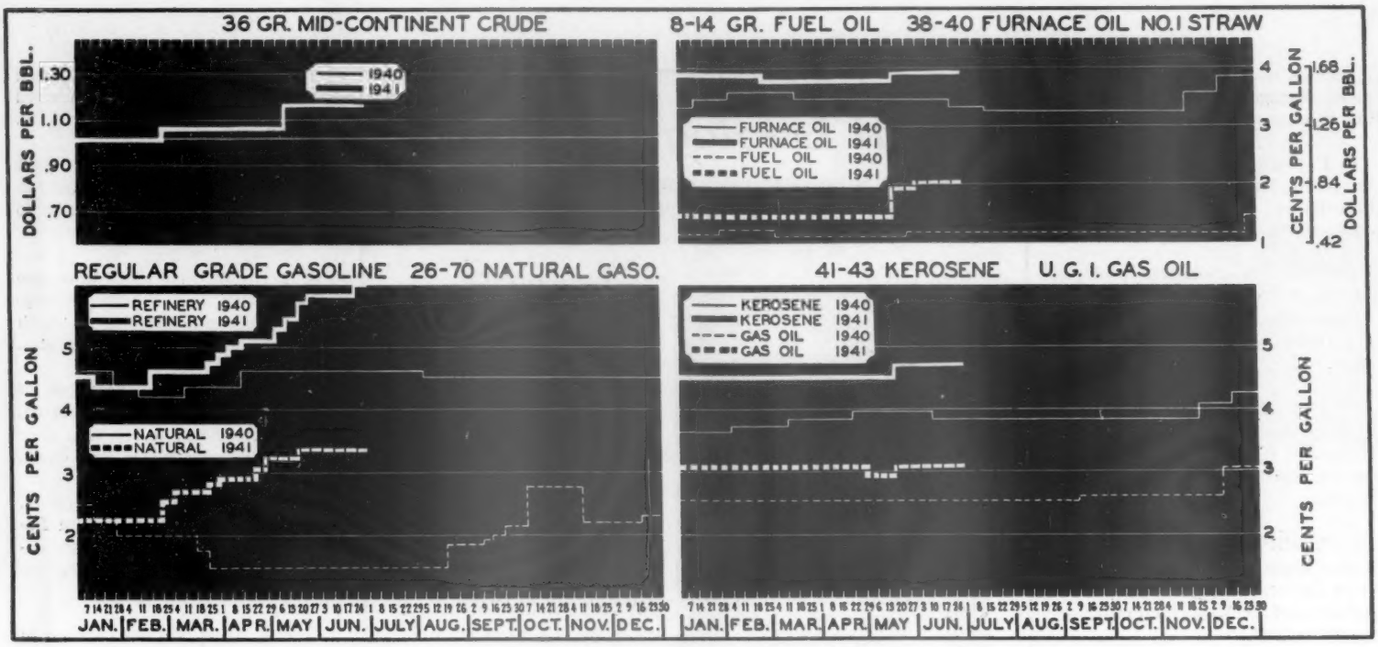
T. L. STROMBERGER, of Union Oil Co., Los Angeles, Calif., has been appointed advertising manager and in his new capacity will report to R. L. PHILIPPI, director of public relations and advertising. Mr. Stromberger has been a member of the company's advertising department since 1929.

Shifts: H. E. TREICHLER, JR., engineer, Texas Co., from El Campo, Tex., to New Gulf, Tex.; E. H. SHANNON, engineer, Texas Co., from Laredo, Tex., to Crystal City, Tex.; A. W. TWEELINGS, engineer, Stanolind Oil & Gas Co., from Shamrock, Tex., to Minneapolis, Minn.; CLIFFORD MOOERS, president, Shasta Oil Co., from Houston, Tex., to Seattle, Wash.; BOB O. BIRD, superintendent, Phillips Petroleum Co., from Odessa, Tex., to Corpus Christi, Tex.; L. R. SKINNER, superintendent, Swan King Oil Co., from Salem, Ill., to Kilgore, Tex.; IVAN J. FENN, geologist, Subterrex Co., from South Bend, Ind., to Plymouth, Ind.; O. L. CHILCOAT, engineer, Sohio Pipe Line Co., from Greenville, Ohio, to Owensville, Mo.; CARL E. MAGNUSON, geologist, Stanolind Oil & Gas Co., from Gorham, Kans., to Russell, Kans.; IVAN MAY, engineer, Stanolind Pipe Line Co., from Ada, Okla., to Stonewall, Okla.

ROBERT BROWN and U. R. LAVES have opened offices in Shawnee, Okla., as consulting geologists. Both have done geological work in the Greater Seminole area and Mid-Continent fields while connected with major oil companies. Mr. Brown joined Amerada Petroleum Corp. in 1929, and became district geologist in 1932. He resigned in 1934 to enter business for himself. Later, he became chief geologist for Mudge Oil Co. Mr. Laves joined Tidal Oil Co. in 1929, and has been working for himself since 1931.

HARRY R. LEWIS, former president and member of the board of directors of Conewango Refining Co., and Hyvis Oils, Inc., both of which companies are wholly owned Sinclair subsidiaries, resigned these posts and his position with Sinclair Refining Co., to form the Harry R. Lewis Co. The new company will specialize in development of new products, assistance in marketing work and brokerage.

JOHN C. CALHOUN, who has been a member of the water-flood research staff sponsored by the Bradford (Pa.) district research group at the School of Mineral Industries, Pennsylvania State College, has established headquarters in the office of the Bradford district Pennsylvania Oil Producers Association. Continuing the water-flood research in the Bradford field, he will assist in correlating field data with work done in the college laboratory.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Sellers Tighten Grip on Gasoline Prices in Mid-Continent District

By H. STANLEY NORMAN

TANK-CAR motor-fuel prices have moved slightly higher during the past few days and appeared Tuesday to be firmly entrenched at the elevated figures. Higher prices apply to both sides of the tank-car quotations for regular gasoline throughout the Middle West and the Mid-Continent.

Other petroleum products, particularly lubricating oils in the Mid-Continent, are comparative in market strength with motor fuel. Burning oils are less active than the summer products but refiners are not making a fuel market by releasing materials from storage. On the contrary, most Mid-Continent refiners are now operating to gasoline and kerosene with practically all distillate fractions going to cracking stills.

Despite operation of plants to recover more gasoline, orders on books of most refineries are 30 days ahead of production.

Gulf Activity Resumed

One of the most significant developments of the week was the apparent resumption of activity on the Gulf Coast, particularly in the Corpus Christi district where a substantial portion of the independent refining capacity for that region is located. Observers were unable to determine whether improved conditions on the Gulf Ccast are based on realities or on the speculatory outlook that lend-lease buying for Great Britain's account will stimulate movement.

Secretary Ickes, oil coordinator, has devoted some effort to securing at least 50 per cent of the lend-lease petroleum purchases for the Gulf Coast. Design is to relieve the Gulf Coast refiners and producers to some extent from the business-depressing influence of tanker diversions. Corpus Christi refiners have been purchasing new supplies of natural gasoline which is usually a reliable indication that sales of finished motor fuel are being made. Resumption of natural gasoline purchases followed a 2-week period of inactivity, during which offshort movement fell substantially below normal for the season.

Mid-Continent refiners are still shipping record high volumes of motor fuel, although the big push for July 4 supplies ended early this week. Demand is reaching the Mid-Continent from states previously considered beyond economic reach. Some of the more distant demand is coming into the Mid-Continent because of reduced tank-car freight rates which became effective June 11.

Refiners in this section this week continued their quotations on regular gasoline at a range of 6 to 6.125 cents per gallon, f.o.b. plant. These quotations represent an increase of 0.125 cent per gallon on both sides of the market. Advances became effective June 28 at most refineries.

Some refiners in this section have declined to consider new motor-fuel business and have issued instructions to sales organizations to discontinue solicitation of buyers other than regular customers. Buyers in the spot market report that supplies of motor fuel are growing harder to locate and discounts from published prices are becoming almost extinct.

Distillate Scarce and Firm

Kerosene and heavier distillate fuels are in firm demand from a seasonal standpoint at prevailing prices. Refiners are more than willing to store their current production of distillate fuels although the rate of manufacture in this section is less than normal. Distillate fuels are being transferred to cracking stills to obtain the maximum production of motor fuel, demand for which is running 12.4 per cent above 1940 in this country.

The basis for frequent advances in the lubricating-oil market applied in the Mid-Continent and the eastern section of the country so far this year is disclosed in the Bureau of Mines petroleum summary for April and the first 4 months. Domestic demand for lubricating oils increased 20.3 per cent in the 4 months, exceeded in gain from a percentage standpoint by only wax and aviation gasoline.

Residual fuel oil is practically unobtainable in the Mid-Continent refining district. Current production is largely absorbed by contracts with railroad companies which are among the most active inquirers for spot material to supplement their previously anticipated demands.

Refined Oil Market Barometer

Refinery-gasoline prices are strengthening in all parts of the country east of the Rocky Mountains. Mid-Continent suppliers raised their quotations 0.125 cent per gallon last Saturday. Major companies bought extensively in the Gulf Coast market and both gasoline and distillate fuel-oil prices immediately reacted upward. Premiums are being paid for gasoline for prompt delivery on the East Coast.

MID-CONTINENT: Refiners sold up for 60 to 90 days.

GULF COAST: Gasoline market turned strong under influence of major company purchases.

CALIFORNIA: Reduction in fuel-oil stocks continues on strong market.

PENNSYLVANIA: Cylinder oils, wax, kerosene and gasoline advanced.

CHICAGO: Buyers report increasing difficulty in locating spot-market gasoline.

Higher Spot-Market Prices Are Impending on Eastern Coast

By J. P. O'DONNELL

NEW YORK, July 1.— Increasing indications of impending higher spot-market prices were in evidence in the East Coast marketing area last week. These indications were offset by the fact that none of the major supplying companies has increased posted prices and that the market, as a whole, continues to experience a more or less nominal status due to the reluctance of suppliers to meet the demands of other than contract customers.

Gasoline in the 72-74-octane range is now quoted at 8 to 8.5 cents in the New York Harbor area, the maximum representing an increase of a half cent. This is the first advance for motor fuel in this market since the upward swing was halted several weeks ago. Only limited quantities of motor fuel are available despite the fact that East Coast inventories continue to increase.

East Coast stocks of gasoline rose 915,000 bbl. in the week ended June 21, the American Petroleum Institute reports. These stocks have risen almost without interruption since the last week of April but despite these increases are still approximately 750,000 bbl. less than a year ago. In view of the substantially higher demand and the reduced transportation facilities, this amply justifies the currently tight condition of the East Coast market.

However, there is still encouragement in the fact that stocks have continued to rise despite the handicaps under which this division of the industry is operating. The increase in East Coast gasoline stocks since April 29 totals 2,443,000 bbl., slightly more than 12 per cent. The 3-day Fourth of July week end, which is expected to result in an unprecedented demand for motor fuel along the Atlantic seaboard, will usher in the season of heaviest demand and will possibly give some indication of the industry's ability to meet all demands under existing handicaps.

Steps designed to promote the conservation of supplies of gasoline were taken in two eastern cities last week. With the slogan "Make 4 gallons do what 5 did before" Washington's 167,388 car owners were asked to effect a 20 per cent reduction in consumption. The program, undertaken by the District of Columbia Petroleum Conservation Committee, sought to attain this end by enlisting the cooperation of motorists to drive more slowly and adjust their engines for the maximum utilization of the fuel and asking maintenance men to give primary consideration to fuel saving. At Boston the Retail Gasoline Dealers Association proposed that Massachusetts dealers operate their stations only 11 hours a day. This plan, it was reported, is being considered by Secretary Ickes.

The tight situation that prevailed in gasoline also affects other products and both fuel oil and kerosene are being quoted at prices higher than those posted by major suppliers. Small amounts of No. 2 fuel oil are reported to have been moved at 0.3 cent above major-company quotations at both New York and New England points. These quantities are believed to have been relatively small and the transactions were regarded more as an indication of the market trend than as price-establishing developments.

Limited quantities of kerosene are also believed to have been sold on the same basis at from 0.3 to 0.4 cent above current major-company postings. Spot-market quotations on kerosene in the New York Harbor area now range from 5.2 cents to 5.5 cents and on No. 2 fuel oil from 4.9 cents to 5.2 cents. A similar spread exists at most other North Atlantic points though at one or two points a spread of 0.1 cent greater is reported.

Stocks of burning oils on the East Coast continued to grow last week but the increases are at a much slower rate than those of a year ago. The increase in the week ended June 21 was 320,000 bbl. In contrast to this increase, advances in the last 2 full weeks of June 1940, after the end of the protracted cold spring and early summer, averaged 850,000 bbl. Gas oil and distillate stocks are now about on a par with those of a year ago and the rate of increase from now on in comparison with that of last year will be watched closely.

The tanker market, coastwise, was unchanged last week, but there were reports that a Panamanian tanker of 4,500 tons had been chartered for the delivery of a cargo of fuel oil or crude oil from Tampico to New York at 75 cents a barrel. If this charter is confirmed, it will represent a decrease of 5 cents per barrel for this rate. The last previous charter for Tampico-New York delivery is reported at 80 cents.

Other tanker developments last week included the launching of the 16,625-deadweight-ton tanker, Stanvac Manila, for the Petroleum Shipping Co., marine subsidiary of the Standard Vacuum Oil Co. It was third of a contract for three vessels launched from the Fore River, Mass., yards of the Bethlehem Steel Co., for Petroleum Shipping. It was also announced that the Sun Shipbuilding Co. would launch the 19,205-ton Atlantic Refining Co. tanker, W. C. Yeager, on July 7, considerably ahead of contract date.

Marine departments of the oil companies were notified during the week by Petroleum Coordinator Ickes that "it is apparent that the utilization of these facilities falls short of emergency maximum." Operators of tanker fleets were requested to make an immediate and thorough searching examination of the daily performance of each tanker to the end that some improvement can be made. The notification, sent by wire, was made as part of a program to lessen the impending shortage of petroleum products on the Atlantic seaboard and as the result of a review of tanker performance.

A.P.I. Weekly Refinery Statistics

Week Ended June 28, 1941

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	22,888,000	8,240,000	9,421,000	600,000
Appalachian	91.0	2,993,000	470,000	418,000	141,000
Ind., Ill., and Ky.	90.2	16,913,000	3,578,000	3,312,000	653,000
Okla., Kans., and Mo.	76.9	7,475,000	2,044,000	1,436,000	307,000
Inland Texas	59.6	2,197,000	1,324,000	384,000	134,000
Texas Gulf	89.2	12,019,000	7,589,000	7,361,000	905,000
Louisiana Gulf	97.6	3,174,000	1,356,000	1,330,000	149,000
N. Louisiana and Ark.	51.5	471,000	491,000	297,000	58,000
Rocky Mountains	56.0	1,560,000	527,000	137,000	53,000
California	87.3	15,421,000	65,757,000	10,896,000	591,000
Total reported	86.2	85,111,000	91,376,000	34,992,000	3,591,000
Est. unreported	.....	6,350,000	1,520,000	740,000	339,000
Est. total	.....	†91,461,000	92,896,000	35,732,000	3,930,000
*Est. total previous wk.	.....	91,916,000	93,281,000	35,736,000	3,845,000
*June 29, 1940	.....	94,298,000	104,344,000	33,048,000	3,625,000

*Bureau of Mines. †Includes 7,411,000 bbl. aviation gasoline.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended June 21, 1941	259,142,000 barrels
Week ended June 14, 1941	260,464,000 barrels
Week ended June 22, 1940	260,891,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Heavy Major-Company Purchases Relieve Gulf Coast Refiners

HOUSTON, Tex., July 1.— Heavy buying of gasoline from independent Gulf Coast refiners by a number of larger companies the past week is materially relieving the congestion under which coastal suppliers have labored the past several weeks. Return of business is stimulating the market outlook.

Chief among the buyers reported have been Cities Service, Gulf Refining Co., Tide Water, Pure Oil Co., Sun Oil Co., Standard Oil Co. of Louisiana, and Standard Oil Co. of New Jersey. Pan American also is reported to have made limited purchases.

Purchasers are moving the material by tanker direct to the Atlantic seaboard as rapidly as available, and shipments already are under way in substantial volume.

Most of the gasoline being bought is 75 octane C.F.R. (80 research). Bottom price paid was 6 cents with much of the material bringing 6.125 cents, which now is the minimum.

Buying also has been extended to gas oil and fuel oil. Five cargoes of gas oil have been sold within the past 2 weeks, one for immediate shipment at 3.25 cents and the other for future delivery. One cargo for July delivery brought 3.5 cents. Two cargoes of Bunker C fuel brought 85 cents.

RETAIL OIL MARKETS...

Tank-wagon and filling-station prices on gasoline and kerosene furnished by larger marketing firms

Prices as of July 1, 1941

Taxes

The gasoline quotations given in the following tables include the 1½-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag
Chicago, Ill.	15.6	13.6	4.5	10.3
Decatur	13.9	12.4	4.5	9.0
Joliet	16.4	13.6	4.5	10.3
Peoria	16.2	14.2	4.5	10.1
Quincy	14.9	13.4	4.5	10.0
Davenport, Ia.	16.2	14.7	4.5	10.1
Des Moines	15.9	13.9	4.5	9.8
Mason City	16.2	14.7	4.5	10.1
Duluth, Minn.	17.7	16.2	5.5	10.6
Mankato	17.4	15.9	5.5	10.3
Minneapolis	17.4	15.9	5.5	10.3
La Crosse, Wis.	17.4	15.9	5.5	10.3
Green Bay	17.7	16.2	5.5	10.6
Milwaukee	17.6	16.1	5.5	10.5
Detroit, Mich.	15.9	14.4	4.5	9.6
Grand Rapids	15.9	14.4	4.5	9.6
Saginaw	15.9	14.4	4.5	9.6
Evansville, Ind.	16.9	15.4	5.5	9.6
Indianapolis	17.1	15.2	5.5	9.8
South Bend	17.5	16.0	5.5	10.2
Fargo, N. D.	18.4	16.9	5.5	11.3
Huron, S. D.	17.8	16.3	5.5	10.7
Kansas City, Mo.	14.4	12.9	4.5	9.1
St. Louis	14.4	12.9	4.5	9.8
St. Joseph	15.7	14.2	4.5	8.9
Wichita, Kans.	14.8	12.7	4.5	8.0

*State tax 2 cents, 1-cent city tax, and 1½-cent federal tax.

Exclusive of state general sales taxes. Discounts to commercial consumers. On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off, minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective June 4, 1941, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 8.75 cents; 100-149 gal., 7.75 cents; 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex fuel oil A, 1-99 gal., 7.75 cents; 100-399 gal., 6.75 cents; 400-749 gal., 5.75 cents; 750 gal. and over, 5.0 cents. Stanolex fuel oil B, 1-99 gal., 7.75 cents; 100-399 gal., 6.75 cents; 400-749 gal., 5.75 cents; 750 gal. and over, 5.0 cents. Stanolex Bunker C fuel oil, 1-399 gal., 6.25 cents; 400-999 gal., 5.25 cents; 1,000 gal. and over, 4.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Cons'r tank wag.	Gasoline Dlr. divided dlr.	Gasoline Inc. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.5	*9.0

*Includes state tax of 1 cent.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r tank wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank wag.
Atlanta, Ga.	17.75	17.75	7.5	10.0
Augusta	17.75	17.75	7.5	9.5
Macon	17.75	17.75	7.5	10.0
Savannah	16.75	16.75	7.5	9.0
Birmingham	18.25	18.25	8.5	8.0
Mobile	18.25	18.25	9.5	8.5
Montgomery	19.25	19.25	9.5	10.0
Jackson, Miss.	16.75	16.75	7.5	9.0
Vicksburg	16.75	16.75	7.5	8.5
Jacksonville, Fla.	17.75	17.75	8.5	8.0
Miami	17.75	17.75	8.5	8.0
Pensacola	18.25	18.25	9.5	8.0
Tampa	17.75	17.75	8.5	8.0
Lexington, Ky.	16.75	16.75	6.5	9.0
Covington	15.0	15.0	6.5	9.0
Louisville	16.25	16.25	6.5	8.5
Paducah	16.25	16.25	6.5	8.5

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax, and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons'r tank car	Gasoline Dlr. tank wag.	Gasoline Inc. tax	Kero. tank wag.
Atlantic City	13.0	14.0	4.5	7.8
Newark	13.0	14.0	4.5	7.8
Annapolis	13.85	15.35	5.5	9.5
Baltimore	13.25	14.75	5.5	8.5
Cumberland	14.65	16.15	5.5	10.0
Washington, D. C.	11.50	13.00	3.5	9.0
Danville, Va.	15.45	17.45	6.5	10.25
Norfolk	14.25	16.25	6.5	10.00
Petersburg	14.55	16.55	6.5	11.00
Richmond	14.55	16.55	6.5	11.00
Roanoke	15.75	17.75	6.5	10.50
Charles'n, W. Va.	15.55	18.05	6.5	11.5
Parkersburg	14.85	17.35	6.5	11.2
Wheeling	15.25	17.35	6.5	11.8
Charlotte, N. C.	17.40	18.90	7.5	9.3
Hickory	17.95	19.45	7.5	10.3
Mount Airy	17.80	19.30	7.5	9.5
Raleigh	17.15	18.65	7.0	10.3
Salisbury	17.45	18.95	7.5	10.7
Charleston, S. C.	15.25	17.75	7.5	9.25
Columbia	16.10	18.60	7.5	(*)
Spartanburg	16.80	19.30	7.5	(*)

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at a time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery: 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

*Kerosene business of the company at these points now exclusively handled by dealers.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline Cons'r tank car	Gasoline Dlr. tank wag.	Gasoline Inc. tax	Kero. tank wag.
Philadelphia, Pa.	14.0	15.0	5.5	10.0
Pittsburgh	14.5	15.5	5.5	10.5
Allentown	14.5	15.5	5.5	10.5
Erie	14.5	15.5	5.5	10.0
Scranton	14.5	15.5	5.5	10.5
Altoona	14.5	15.5	5.5	10 5
Dover, Del.	...	15.5	5.5	10.5
Wilmington	...	15.0	5.5	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank truck	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
San Francisco	17.5	18.5	4.5	11.5
Los Angeles	17.0	18.0	4.5	10.0
Fresno, Calif.	18.5	19.5	4.5	12.5
Phoenix, Ariz.	21.5	22.5	6.5	12.5
Reno, Nev.	20.5	21.5	5.5	13.5
Portland, Ore.	20.0	21.0	6.5	13.5
Seattle, Wash.	20.0	21.0	6.5	13.5
Spokane	21.5	22.5	6.5	16.5
Tacoma	20.0	21.0	6.5	13.5

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Comm. tank wag.	Gasoline Dlr.* tank wag.	Gasoline Inc. tax	Kero. tank wag.
Albany	14.2	14.7	5.5	7.6
Met. New York	14.4	14.9	5.5	7.9
Buffalo	14.5	15.0	5.5	8.3
Rochester	15.1	15.6	5.5	8.8
Syracuse	14.8	15.3	5.5	8.7
Portland, Me.	14.6	15.1	5.5	8.0
Manchester, N. H.	15.6	16.1	5.5	8.9
Burlington, Vt.	15.2	15.7	5.5	8.2
Boston, Mass.	13.2	13.7	4.5	7.9
Worcester	13.8	14.3	4.5	8.0
Hartford, Conn.	13.9	14.4	4.5	7.5
New Haven	13.3	13.8	4.5	6.8
Providence, R. I.	13.3	13.8	4.5	7.7

*Undivided.

Effective August 8, 1940, the company changed its commercial consumer policy in New York and New England to the following:

Full compartment deliveries: Accounts buying less than 20,000 gal. annually, 0.5 cent above the commercial-consumer price; accounts buying from 20,000 to 120,000 gal. annually, commercial-consumer price; accounts buying 120,000 gal. annually and above, 0.25 cent off consumer price. Split compartment deliveries: Delivery of less than a full compartment, 250 gal., commercial-consumer price plus 1 cent. Steel-barrel deliveries: Commercial price plus 3 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Inc. tax	Kero. tank wag.
Denver, Colo.	14.5	5.5	11.0
Grand Junction	18.0	5.5	12.5
Pueblo	14.5	5.5	9.5
Casper, Wyo.	17.0	5.5	12.0
Cheyenne	16.0	5.5	11.5
Billings, Mont.	18.0	6.5	12.5
Butte	17.0	6.5	13.5
Great Falls	17.0	6.5	12.5
Helena	17.0	6.5	13.0
Salt Lake, Utah	18.5	6.5	14.5
Boise, Idaho	†20.1	6.5	16.5
Twin Falls	†21.1	6.5	17.0
Albuquerque, N. M.	*17.5	7.0	10.0
Roswell	*15.5	7.0	8.5
Santa Fe	‡18.0	7.5	10.0

*Includes city tax of 0.5 cent. †Includes toll-bridge tax of 1 mill. ‡Includes city tax of 1 cent.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons'r tank car	Gasoline Dlr. tank wag.	Gasoline Inc. tax	Kero. tank wag.
New Orleans, La.	15.25	17.25	8.5	‡10.0
Baton Rouge	15.25	17.25	8.5	‡10.5
Alexandria	15.25	17.25	8.5	‡10.5
Lafayette	15.50	18.00	8.5	‡10.0
Lake Charles	15.50	18.00	8.5	‡10.0
Shreveport	14.50	17.00	8.5	10.0
Knoxville, Tenn.	18.00	20.50	8.5	12.5
Memphis	16.25	18.75	8.5	10.5
Chattanooga	18.50	19.5	8.5	11.0
Nashville	17.75	19.5	8.5	10.0
Bristol	18.25	18.75	8.5	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Incl. tax	Kero. tank wag.
Texarkana, Ark.	14.0	5.5	6.0
Fort Smith	15.5	7.0	6.5
Little Rock	17.25	8.0	8.0
Muskogee, Okla.	15.5	7.0	8.0
Oklahoma City	15.0	7.0	8.0
Tulsa	15.0	7.0	8.0

Tank-Wagon Changes

Standard Oil Co. of California reduced the tank-wagon price of kerosene 5 cents per gallon in Arizona effective June 27, reflecting a change in the state tax law.

Standard Oil Co. (Indiana) advanced the dealer and consumer tank-wagon price of gasoline 0.5 cent per gallon at Chicago, Ill., June 27.

Standard Oil Co. of Louisiana advanced the tank-car and tank-wagon price of gasoline 1 cent per gallon June 24 at Chattanooga, Tenn.

Crude-Oil Prices

(Continued from Page 77)

TEXAS FLAT-PRICE FIELDS

Agua Dulce, Benavides, Longhorn, Southland and Sweden $1.35
Republic Oil Refining Co., 5-21-41.
Alfred and Magnolia City $1.35
Continental Oil Co., 5-21-41.
Alice, Benavides (North Sweden), Ben Bolt, Clark-Muil, Sun, and Tom Graham $1.35
Humble Oil & Refining Co., 5-21-41.
Batson (new), Humble (35° and above), Fig Ridge, Hardin, Hull (25° and above), La Belle, North Dayton (25° and above), Seabreeze South China, West Orange, Willow Slough and Oyster Bayou. $1.25
Sun Oil Co., 5-21-41.
Cass County $1.20
Texas Co., 5-21-41.
Cayuga, Anderson County $0.90
Pan American Production Co., 5-21-41.
Clay Creek, Washington County ... $1.00
Sun Oil Co., 5-21-41.
Cleveland, Liberty County $1.26
Magnolia Petroleum Co., 5-21-41.
Conroe, Montgomery County $1.43
Humble Oil & Refining Co., 5-21-41.
Tide Water Associated Oil Co., 5-21-41.
Sun Oil Co., 5-21-41.
Texas Co., 5-21-41.
Cotton Lake (South) $1.35
Sun Oil Co., 5-21-41.
East Texas and Flag Lake* $1.25
**Humble Oil & Refining Co.*, 5-21-41.
Pan American Production Co., 5-21-41.
Tide Water Associated Oil Co., 5-21-41.
Gulf Refining Co., 5-21-41.
Magnolia Petroleum Co., 5-21-41.
Sinclair Prairie Oil Marketing, 5-21-41.
Shell Oil Co., Inc., 5-20-41.
Sun Oil Co., 5-21-41.
Texas Co., 5-21-41.
Stanolind Oil Purchasing Co.
Esperson (35° and above), South Esperson $1.30
Sun Oil Co., 5-21-41.
Flour Bluff, East Flour Bluff $1.33
Humble Oil & Refining Co., 5-21-41.
Hockley and Cochran $0.87
Texas Co., 5-21-41.
Livingston $1.25
Shell Oil Co., Inc., 5-20-41.
Long Lake $1.23
Sinclair Prairie Oil Marketing, 5-21-41.
Luby $1.35
Amsco Pipe Line Co., 5-21-41.
Luling $1.05
Magnolia Petroleum Co., 5-21-41.
Lytton Springs $1.17
Magnolia Petroleum Co., 5-21-41.
Salt Flat, North Salt Flat, Darst Creek*, Hilbig, Clark, Carroll, and Zoborski $1.14
Humble Oil & Refining Co., 5-21-41.
Magnolia Petroleum Co., 5-21-41.
**Texas Co.*, 5-21-41.
Rincon (North) $1.35
Sun Oil Co., 5-21-41.
Sun $1.35
Sun Oil Co., 5-21-41.
Talco $0.79
Humble Oil & Refining Co., 5-21-41.
Magnolia Petroleum Co., 5-21-41.
Tomball and Satsuma $1.40
Humble Oil & Refining Co., 5-21-41.
**Magnolia Petroleum Co.*, 5-21-41.
Stanolind Oil Purchasing Co., 4-1-41.
Van, Van Zandt County $1.08
Humble Oil & Refining Co., 5-21-41.
Pure Oil Co., 5-21-41.
Yates (regular) $0.95
Humble Oil & Refining Co., 5-21-41.
Gulf Refining Co., 5-21-41.
Shell Oil Co., Inc., 5-20-41.

PRICES OF REFINED PRODUCTS...

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of July 1, 1941
(Most prices in cents per gallon)

The quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.06	.06125
63-66 octane	.05625	.0575
60 octane and below	.0525	.05375
60-62 400 grades:		
72-74 octane (regular)	.06	.06125
63-66 octane	.05625	.0575
60 octane and below	.0525	.05375

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.05875	.06
63-66 octane	.0550	.05625
60 octane and below	.05125	.0525
60-62 400	.05	.05875

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.05875	.06
63-66 octane	.0550	.05625
60 octane and below	.05	.05875

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
72-74 octane (regular)	.05875	.06
60 octane and below	.05	.0525

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.06	.06125
63-66 octane	.05625	.0575
60 octane and below	.0525	.05375
60-62 400 grades:		
72-74 octane (regular)	.06	.06125
63-66 octane	.05625	.0575
60 octane and below	.0525	.05375

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)	.0750	.0775
80 octane (1939 Research)	.0775	.0800

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.06	.07
54-58 U. S. Motor	.0575	.0625

EAST COAST (domestic)—

U. S. Motor (minimum 72 octane):		
New York (Bayonne)*	.075	.080
Philadelphia		.080
Boston		.082
Baltimore		.070
Charleston, S. C.		.075

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
80 (research)	.06	.06125
72-74 octane (leaded)	.055	.0575
70-72 octane (unleaded)	.0575	.05875
68-70 octane (unleaded)	.055	.0575

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03375
Grade 18-55	.04

NORTH TEXAS—

Grade 26-70	.03
Grade 18-55	.035

CALIFORNIA—

75-85 375-390	.045	.05

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.03

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.0375	.03875
41-43 gr., 300-320 l.b.p., 110 125 flash, 500-520 e.p.	.03875	.04
46-48 gr., 210-230 l.b.p., 480 max, e.p.	.04125	.0425

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.0450	.0475
41-43	.04375	.04625

NORTH TEXAS—

41-43	.0425	.04625

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04375	.04625

ARKANSAS (Ark. and N. La. del.)—

41-43	.04375	.04625

PENNSYLVANIA (inland refineries)—

46	.0575	.06125
45	.0575	.06

CHICAGO (Based on Group 3)—

42-44	.0450	.0475
41-43	.04375	.04625

CALIFORNIA (Pac. Coast market)—

38-40 high-burning test	.045	.055

NEW YORK (Bayonne, N. J.)—

41-43	.052

GULF COAST (domestic)*—

41-43	.0325	.03375

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.04	.0425
No. 1 (white, 38-42)	.03825	.04125
No. 1 straw (38-40)	.0350	.03625
No. 2 straw (32-36)	.0350	.03625
No. 3 zero to 10 (28-32)	.03375	.0350

NORTH TEXAS—

No. 1 (white, 38-42)	.0375	.03825
No. 1 straw (38-40)	.03375	.0350

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2 (32-36)	.0325	.03375

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.0325	.03375

CHICAGO (Based on Group 3)—

Range oil	.04	.0425
No. 1 (white, 38-42)	.03825	.04125
No. 2 straw (32-36)	.035	.03625
No. 3 zero to 15 (28-32)	.03375	.035

NEW YORK (Bayonne, N. J.)—

*No. 1	.052
*No. 2	.049
*No. 3	.049

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

No. 5, low pour point (18-22)	.95	.90
No. 6, 15 and above (10-16)	.85	.90

NORTH TEXAS—

No. 5, low pour point (18-22)	.80	.85
No. 6, 15 and above (10-16)	.80	.85

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.80	.85

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.0325	.035
No. 5, low pour point (18-22)	.85	.90
No. 5, 15 and above (18-22)	.85	.90
No. 6, low pour point (10-16)	.85	.90
No. 6, 15 and above (10-16)	.85	.90

PENNSYLVANIA (inland refineries)—

36-40	.055	.0575

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 bunkers at tidewater)	.75	.85
10-16 (cargo lots)	.75	.85
12-17 (tank cars)	.65	.75
10-17 (high sulfur)	.55	.65
San Joaquin Valley:		
10-18 (tank cars)	.70	.85
24 plus diesel, per bbl.	1.10	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.0325	.035
43-47 diesel	.035	.03375
48-52 diesel	.03375	.03625
53-57 diesel	.035	.03875
58-and-above diesel	.03625	.0375
Diesel bunkers		1.45
Bunker C (bulk cargoes)	.85	.90
Bunker C (bunkers)		.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.050
28-30 diesel (lighterage 6¼c per. bbl.)		2.00
28-30 diesel (tank cars)	.049	.05
Bunker C (to ocean-going ships in N. Y. Harbor)	1.35	1.50
Industrial fuel (tank cars)		.038

Ligtherage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25	.23
150-160 D, 0-10	.19
150-160 D, 10-25	.185
100-110 D, 0-10	.185
100-110 D, 10-25	.18
Steam refined:	
600 dark green (untreated)	.115

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point		.245
15 pour point		.235
25 pour point	.22	.23
Steam refined:		
600	.12	.13
650	.125	.14
600 flash	.135	.15
630 flash	.145	.16

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.105
180-3		.11
200-3		.11
250-3		.125
280-3		.135
280-4		.13
300-3½		.145
350-3½		.15
400-3½		.16
500-3½		.165
600-3½		.17
100-2½ paraffin oil 10-25		.06
10-25 pour point:		
200-3		.105
250-3		.12
280-3		.13
280-4		.125

CALIFORNIA (moving to dom. market)—

Pale oils:		
200-2½-3	.0725	.08
300-2½-3	.0725	.08
400-3-4	.0725	.08
450-3-4	.0725	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.0725	.08
300-5-6	.0725	.08
350-5-6	.0925	.115
400-5-6	.0925	.115
450-5-6	.0925	.115
500-5-6	.095	.115
600-5-6½	.0925	.115
700-6½ plus	.0925	.115
750-6½ plus	.0925	.115
900-6½ plus	.0925	.115

GULF COAST—

Pale oils:		
100-3	.0525	.0575
200-3	.0725	.0775
300-3	.07¾	.08¼
500-3½	.08½	.09
750-3½	.08¾	.09¼
1,200-3½	.08⅞	.09⅝
2,000-4	.09	.09½
3,000-4		.10½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.315
10 pour point		.305
15 pour point		.295
25 pour point	.28	.33
200 vis., at 70° F., 3 color:		
Zero pour point		.335
10 pour point		.325
15 pour point		.315
25 pour point	.30	.35

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.03	.03125

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.05	.055
124-126 (A.m.p.) w.c. scale	.05	.0525

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax		.0560
128-130 (A.m.p.) wax		.0560
130-132 (A.m.p.) wax		.0585
133-135 (A.m.p.) wax		.0615
135-137 (A.m.p.) wax		.0640
Crude scale:		
124-126 (A.m.p.) w.s.	.0425	.045
124-126 (A.m.p.) y.s.	.040	.0425
Petrolatum in barrels, carload lots:		
Dark green	.02625	.03000
Amber	.02875	.03125
Extra amber	.02500	.02625
Lily white	.04875	.05375
Snow white	.05625	.06375
Cream	.04000	.04375

Export Prices

GASOLINE

GULF COAST—

60-62 400	.05	.06
61-63 390	.055	.0575
64-66 375	.055	.0575

LOS ANGELES—

U. S. Motor grades:		
Above 69 octane	.0575	.06
65-69 octane	.055	.0575
60-65 octane	.0475	.0525

KEROSENE

GULF COAST—

41-43 water white	.03375	.0375

LOS ANGELES—

41-43 water white	.05	.0525

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered	.18	.20
630 S.R. unfiltered	.185	.2025
600 flash, S.R.	.185	.205
650 flash, S.R.	.20	.21
Bright stock:		
Light, 25 pour point	.27	.285

NEUTRAL OIL

200-3 color	.33	.36
150-3 color	.31	.34

PARAFFIN WAX

NEW YORK (prices per lb.)—

123-125 A.m.p.		.0560
125-127 A.m.p.		.0560
128-130 A.m.p.		.0560
133-135 A.m.p.		.0615
135-137 A.m.p.		.0640
Crude scale:		
124-126 w.s.	.0475	.05
124-126 y.s.	.0475	.05

A STATEMENT OF POLICY . . .

LONE STAR GAS SYSTEM

DALLAS, TEXAS

1915 WOOD STREET

June 23, 1941

D. A. HULCY
PRESIDENT

Mr. P. C. Lauinger, Pres.
The Petroleum Publishing Co.
Tulsa, Oklahoma

Dear Mr. Lauinger:

The May 15th issue of the Oil and Gas Journal published a discussion by Roy C. Coffee, general attorney for Lone Star Gas Company, on the subject "Trends In Federal Regulation of Private Industry". In this discussion references were made to rulings and policies of various governmental regulatory and supervising agencies.

It has recently been called to my attention that the above article by Mr. Coffee has been interpreted by some persons as expressing the official attitude and policy of Lone Star Gas System companies toward regulatory and governmental bureaus and commissions.

It is my desire and purpose, as well as that of the entire management of Lone Star Gas System companies, to point out that the opinions expressed by Mr. Coffee are his personal views and interpretations and are not to be construed as the official attitude of Lone Star Gas System companies.

Utility service has become a vital part of the American pattern of life. Therefore, it is reasonable and logical that it is the intended purpose of regulatory agencies, as the authorized representatives of the American people, to exercise a fair and just supervision in the interest of preserving and protecting the rights of those who render utility service and the rights of those who use it. Lone Star Gas System companies are subject to the regulation of many agencies, bureaus and commissions of city, state and the federal government including the Railroad Commission of Texas, the Corporation Commission of Oklahoma, the Securities and Exchange Commission and the Federal Power Commission. It is my personal observation and official opinion that the conferences, hearings and discussions in which we have participated with representatives of these regulatory agencies have been of inestimable value to us in the proper conduct of our business.

It is a matter of record that officials of Lone Star Gas System companies have publicly expressed themselves, on many occasions, to the effect that regulatory and supervisory agencies of government are desirable and important to both the utilities and their customers. It has been and will continue to be the attitude and policy of our companies to cooperate with all regulatory agencies to the fullest extent possible.

Very truly yours,

D. A. Hulcy, Pres.
Lone Star Gas System

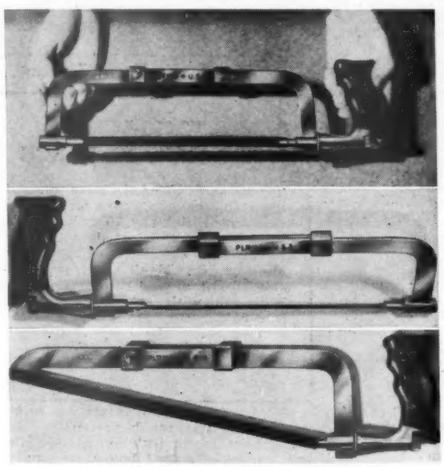
DAH:WCWp

The discussion referred to above was part of an address delivered before the meeting of the Natural Gas Section, American Gas Association, at Dallas, Tex., May 7.

EQUIPMENT PROGRESS...

New Type Hacksaw Added to Plomb Tool Line

A new type of hacksaw, to be known as the Plomb Firmback, with frame designed so that it can be set at any angle with the pistol-grip handle, and adjust-

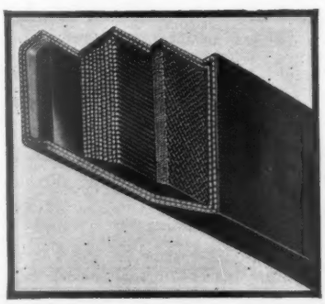


able blade mounts that keep the blade straight at all times, thus minimizing breakage, is announced as the latest addition to the Plomb Tool Co. line of forged hand tools. As illustrated, the pistol-grip handle is so mounted on the frame as to give direct push and pull action on the blade. It can be turned to any position to get close-up cuts in spite of obstructions. The blade can also be turned and positively set at any angle, increasing the ability of this tool to reach ordinary inaccessible places.

The frame is also adjustable to take all popular lengths of blades, and the blade mounts are movable up or down, on the legs of the frame. For special purposes, a short leg is available for the frame, as illustrated. The Plomb Firmback hacksaw is strongly made, chromium plated, and engineered to give lasting service, with minimum blade breakage.

New "Super 7" V-Belt Announced by Allis-Chalmers

Allis-Chalmers Manufacturing Co., Milwaukee, Wis., pioneer in the field of multiple V-belt transmission, has again made fundamental improvements in V-belt structure. It announces that all its Texrope V-belts



are now of the new "Super 7" laminated design, based on the Vogt formula and abundant field experience, to include more strength and flexibility, greater service and longer life.

The cords in the new "Super 7" belts are smaller, permitting the use of more cords per belt with a resulting greater strength and less stretch. Each cord is individually imbedded in heat-dissipating rubber to reduce internal belt degeneration. These belts are made in matched sets to assure uniform, smooth running, highly efficient drives. Each element of the belt is designed to fulfill an individual function. The live rubber bottom cushion absorbs the ceaseless impacts of operation. The central cord portion transmits power at the effective pitch diameter. The bias-cut fabric prevents "dishing" and assures transverse stability. The two-ply rubber-impregnated fabric cover prevents destructive agents from reaching the vital belt elements, resulting in a high grip co-efficient between belt and sheave walls.

TRADE LITERATURE

REVERE COPPER & BRASS, INC., 230 Park Ave., New York—Three booklets on Revere copper and copper alloys for (1) the mechanical industries (2) the process industries and (3) power plants. The booklets list and describe the many copper and copper-base alloys available to these industries, giving properties and specifications.

AMERICAN LOCOMOTIVE CO., Alco Products Division, 30 Church St., New York—Bulletin 1022, featuring its carbon steel, alloy steel and nonferrous metal prefabricated piping; Bulletin 1023, featuring its "triple service" in heat exchangers, prefabricating piping and pressure vessels; Bulletin 1024, describing its feedwater heaters for high-pressure power-plant service; Bulletin 1025, on its heat exchangers—liquid-to-liquid for oil refinery and gasoline-plant service.

C. J. TAGLIABUE MFG. CO., Brooklyn, N. Y.—32-page catalog, No. 699E, listing and describing more than 100 different types of oil-testing instruments. In addition to a complete listing of A.S.T.M. thermometers and A.P.I. hydrometers, the entire TAG line of miscellaneous and general testing thermometers and hydrometers is featured. Many new and improved petroleum-testing apparatuses for acid heat, gum stability, Ramsbottom carbon residue, grease consistency, kinematic viscosity, flash and fire, etc., are illustrated and described in detail.

J. H. McDonald Retires as Head of Atlas Supply Co.

After serving 32 years as president and active head of Atlas Supply Co., which he founded in 1909, J. H. McDonald of Muskogee, Okla., retired from the firm effective July 1, completing an interesting chapter in the history of oil. J. L. Neudoerfer, vice president in charge of sales of Wheeling Steel Co., succeeded McDonald as president. J. R. Brooks, connected with the firm for 30 years as vice president and secretary, resigned the secretaryship to become vice president and general manager. H. U. Everett, who has been with Atlas Supply for a great many years, has been elected secretary.

Mr. McDonald's has been a colorful and eventful career. His first job was yard clerk for the W.&L.E. Railroad in Ohio, in 1884. He remained with the railroad until 1890 and was at various times night yardmaster, freight clerk and locomotive fireman. During the Chicago World's Fair from 1891 to 1893, McDonald operated several restaurants in the Loop district.

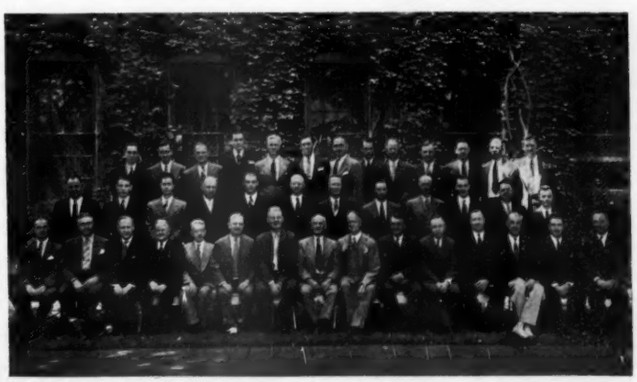
In succeeding years he worked for the Union Supply & Hardware Co. and in the oil fields for George Barnes, president of that firm. In 1902, Mr. McDonald went to Bartlesville, Indian Territory, as general manager of the Cudahy Oil Co., drilling the first producing oil wells there. From 1905 to 1909, he was vice president and general manager of Bovaird-Sefang in Bradford, Pa.

Mr. McDonald became associated with Clayton M. Mark and established the Atlas Supply Co. at Muskogee in 1909. Atlas Supply became a subsidiary of Steel & Tube Co. of America and in 1923 both organizations were taken over by Youngstown Sheet & Tube Co. Later that year, however, Mr. McDonald and Mr. Mark bought the supply business from Youngstown together with the stores in Muskogee and Fort Worth, Tex.

Under Mr. McDonald's management, Atlas Supply expanded throughout Oklahoma, Texas, New Mexico, Kansas and Illinois. In January 1939 he and his associates sold Atlas Supply to Wheeling Steel Corp. Mr. McDonald remained as president and active head of the firm until recently when, after nearly 60 years in active business and industrial life, he decided to retire.

SILVER ANNIVERSARY OF F. H. PAYNE, AMERICAN METER PRESIDENT

In celebration of his fiftieth anniversary with American Meter Co., Francis H. Payne was tendered a surprise testimonial on June 20 at the Kahkwa Club in Erie, Pa. From the company's factories and sales offices all over the country, 46 of its officers and members gathered to honor the man who not only is president of American Meter Co. but has an unbroken record of half a century as manager of its important Metric Metal Works.



In memory of the occasion a fine old antique grandfather's clock was given him, the presentation being made by Norton McKean, vice president of the company and manager of its D. McDonald & Co. works in Albany, N. Y. Mr. McKean himself has been with the company since 1913.

Mr. Payne was born into the oil industry on April 1, 1868, at Petroleum Center, Venango County, Pennsylvania, where his father, the late Calvin N. Payne, was engaged in drilling for oil, and built the first natural-gas pipe line in America. Francis H. Payne's advent into the gas-meter business was in July, 1891, when he became secretary and manager of the Metric Metal Co. of Beaver Falls, Pa. In the same year, "Metric" built a new factory at Erie and transferred its entire organization to the new location.

A director of American Meter Co. for many years prior to his election as vice president in 1923, Mr. Payne was made president in 1936. He is a graduate of the Titusville High School, of the Hill School of Pottstown, Pa., and Princeton University in 1891.

CLASSIFIED ADVERTISING

THE MARKET PLACE OF THE OIL INDUSTRY

. . .

Patent Attorneys

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All cases submitted given personal attention.

Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorney's Fees"—FREE.

LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
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Leases and Drilling Blocks

LEASES ROYALTIES
PRODUCING OR NONPRODUCING
Texas, New Mexico, Oklahoma, Louisiana and Illinois
20 Years Experience
Inquiries Invited
B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

NEW MEXICO
Oil and Gas Leases and Royalties.
ROY G. BARTON, Hobbs, N. M.

FOR SALE: Oil and gas leases and small production located in Kentucky shallow field, also tracts of proven Fluorspar and zinc deposits. Reports on request. W. P. HARLEY, Bowling Green, Kentucky.

WARD-Crane sec. 18B 28, near Silurian test; cheap fee or lease. J. G. Smith, 215 Littlefield Bldg., Austin, Texas.

MICHIGAN—1,160 acres to lease for Oil and Gas. Map free. Owner: L. J. Meldrum, 8354 Epworth, Detroit, Mich.

M E N X E I W C O State Oil & Gas Leases and Landowner's Royalties — Harry S. Wright, Farmington, N. M. M E N X E I W C O

FOR LEASE: For oil and gas purposes. 240 acres in Anderson County, Kansas. Oil and gas were drilled in at a shallow depth. W. M. DARY, 3605 East Anaheim, Long Beach, Calif.

WANTED TO BUY: Small production or exhausted leases in Kansas, Oklahoma and North Texas. Write location, brief description and price. Box A-553, The Oil and Gas Journal, Tulsa, Okla.

FOR LEASE—240 A. Garfield Co., Section 5, Township 21, Range 4. Clara Green, 2229 N.W. Cashion Pl., Oklahoma City, Okla.

BIG OIL and Gas play, N. E. Kansas Leases, 40, 80, 160, close in HARRY HAYNES, Grantville, Kan.

HAVE a block of ten-year oil and gas leases on a geophysical structure near production in Illinois. Want financially responsible operator to start development immediately. No promotion considered. J. E. H., Lincoln Hotel, Sterling, Ill.

Geophysical Service

LOCATIONS with the TRUMBULL INSTRUMENT have proven themselves in various fields. Write for full details before you drill. TERRA SURVEYS, Box 23, Waterloo, Illinois.

THE GRAVITATIONAL SELECTOR IS THE ANSWER TO THE SAFE DEVELOPMENT OF NEW POOLS. It is the quickest, the surest, the cheapest and gets RESULTS when other systems fail. Write Geologist, 14957 Lakewood Heights Boulevard, Lakewood, Ohio.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Situations Wanted

EXECUTIVE with twenty-five years' experience in the producing and land departments, part of this time as executive vice president of major Independent company which was merged with a major company, desires connection independent company or parties with money to invest in the oil business as there are many opportunities in the southwest country to make money. Box A-541, The Oil and Gas Journal, Tulsa, Okla.

PROCESS SUPERINTENDENT

Are you considering modernizing or expanding your distilling, cracking, stabilizing, treating equipment, or making high octane synthetics? Capable Process Superintendent, Chemical Engineer, Age 37, 15 years varied refinery experience with record of economies effected, desires change. Can direct necessary economic studies, design and operation.

Box A-563
The Oil and Gas Journal
Tulsa, Oklahoma.

PRODUCTION engineer, 15 years' experience in oil industry, construction of plants, pipe lines; 5 years on water flood and repressure of stripper properties. Age 38. Box A-561, The Oil and Gas Journal, Tulsa, Okla.

ASPHALT expert familiar with all markets east of Mississippi River as well as southwestern territory desires position with asphalt producing company. Graduate engineer with twenty years' experience in asphalt highway and roofing business. Good sales organizer with best of references. Age 44.
Box A-560, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

PIPING Draftsmen experienced in process plant layout, equipment piping and related work. Several excellent opportunities for capable men who wish employment in growing business in the Pittsburgh district. Write, stating qualifications and salary expected. All replies will be handled confidentally. Address Box A-514, The Oil and Gas Journal, Tulsa, Okla.

WANT—Good joint turner in oilfield shop. Year around job $1.25 per hour. In good town, Rocky Mountain area. Box A-545, The Oil and Gas Journal, Tulsa, Okla.

REFINERY EQUIPMENT INSPECTOR, qualified to carry on actual refinery equipment inspection, interpret results and combat corrosion problems. Inspection would be primary duty but would be expected to do general engineering work during slack period. Inspection experience necessary. Write, stating qualifications and salary expected. P. O. Box A-550, The Oil and Gas Journal, Tulsa, Okla.

WANTED experienced refinery designing draftsman. Permanent. Salary. Box A-562, The Oil and Gas Journal, Tulsa, Okla.

WANT a good sideline to sell the oil trade? Drop us a card—New Jersey Chemical Co., P.O. Box 2603, Tulsa, Okla.

Hunting and Fishing

HUNTING & FISHING
Here's your answer to . . . *where, when,* and *how,* to catch more fish and get better hunting . . . Read OutdoorsMan the national magazine for sportsmen. Get it at newsstands, 15c or send 15c in stamps to the publication. Its beautiful man and boy cover is ideal for framing. OutdoorsMan, 384 South Fourth St., Columbus, Ohio.

Real Estate

Real Estate

$9,500. buys 300 acres on saltwater island, half mile waterfront, magnificient mountain, marine and island view Puget Sound. Cool summers, temperate winters. Suitable estate, club, institution or subdividing. Some timbered, some cleared, some improvements; good water; 2300-v. electricity; 5-room shack, 2 fireplaces, wired, plumbing. Substantial 50' x 20' shop, garages, shed. Has investment value at this price. R. A. LUHN, Langley, Washington.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	1 time	$5.00
1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma

OUR READY MARKETS Enable us to pay cash for producing royalty acreage, lots, units and oil payments. GLOBE SECURITIES CO., LTD., Registered Bonded Dealers, Oklahoma City, Okla.

MAPS, information, valuations, well reports, etc., on royalties and producing properties, Texas and New Mexico, ROYALTY OWNERS SERVICE, P. O. Box 1535, Fort Worth, Texas.

Ranches—Farm Lands

72,000-ACRE NEW MEXICO RANCH

28,000 acres deeded, lease on balance, in Chaves County on railroad and paved highway 70 miles Southwest of Clovis. Selected in 1903 on land script as choice of all public lands in New Mexico and now considered one of best ranches in state. Will sell with or without cattle. One half minerals reserved.

C. L. O'BRIEN, Owner
Box 448, Amarillo, Texas.

WE HAVE assembled several hundred choice farm and ranch properties located throughout Texas, Oklahoma, New Mexico and Colorado, priced below present market with reasonable terms if desired. Write today for our farm lands and ranch lands booklet containing full descriptions, prices and terms. Please indicate whether you want farm lands booklet or ranch lands booklet; we have separate booklets. J. C. MYTINGER REALTY COMPANY, P. O. Box 1190, Wichita Falls, Texas.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CAPITAL SEEKERS
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